N. Y. New York—(Borough of Manhattan)—(Official)—Dredging—Bids received Dec. 20 by R. A. C. Smith, Comr. of Docks, for dredging, Contract No. 1497, (a) North River, 150,000 cu.yd., (b) East and Harlem Rivers, 45,000 cu.yd., Boroughs of Manhattan, Bronx, Queens, Brooklyn and Richmond, as follows; Henry Du Bois Sons Co., 17 State St., (a) $0.1295 per cu.yd.; Coastwise Dredging Co., 17 Battery Pl., (a) $0.147, (b) $0.237; P. Sanford Ross, Inc., (a) $0.176, (b) $0.358. Noted Dec. 16.

Penn., Philadelphia—Dredging—Only bid received Dec. 20 by Department of Docks, Wharves and Ferries, for dredging Frankford Creek was from American Dredging Co., at $0.293 per cu.yd.

Ind., Portland—Ditch—E. A. Erwin, Greenville, Ohio, at $22,348 submitted lowest bid for John F. Warren et al Ditch in Jay and Randolph Counties.

Minn., Mankato—(Official)—Ditch—Contract for County Ditch No. 41 awarded to MINNESOTA PIPE AND TILE CO., Mankato, at $8,592. Noted Dec. 16.

Minn., Warroad—Ditch—Contract for Ditch No. 62 awarded to E. G. BRANDENBURG CONSTRUCTION CO., 730 Temple Court, Minneapolis.

Ark., Marion—Ditches—Fred C. Morgan, Indianapolis, Ind., at 7.415c. per cu.yd. submitted lowest bid for approximately 50 miles of ditches for Drainage District No. 7, Crittenden County. Morgan Engineering Co., Memphis, Tenn., Engr. Noted Nov. 25.

Tex., Corpus Christi—Drainage—Robstown Drainage District awarded contract to J. B. ARPIN CONSTRUCTION CO., Houston, at $141,375 for drainage of 80,000 acres. Noted Nov. 25.

Calif., Eureka—Ditch—Contract awarded to CHAPMAN & CO., Klamath Falls, Ore., for ditch 10 miles long for Butte Valley Land Co., Macdoel.

MISCELLANEOUS

Proposed Work

Maine, Bath—Elimination of Grade Crossing—Abolition of grade crossing of Maine Central R.R. approved by Public Utilities Commission, Augusta. Estimated cost, $18,000. B. T. Wheeler, Portland, Ch. Engr.

N. Y., New York—(Borough of Manhattan)—(Official)—Cement, etc.—Bids will be received by Marcus M. Marks, Borough Pres., until 2 p.m., Jan. 3, for furnishing and delivering 500 tons of portland cement, 3,000 tons limestone dust, 7,000 cu.yd. binder stone, 15,000 cu.yd. asphalt wearing surface sand and 2,000 tons refined asphalt.

N. Y., New York—(Borough of Manhattan)—(Official)—Fence—Bids will be received by Cabot Ward, Pres. of Park Bd., Municipal Bldg., until 3 p.m., Jan. 6, for w.-i. fence and setting of artificial granite gate posts around Morningside Park. Noted Aug. 12 and 26.

N. Y., Syracuse—Elimination of Grade Crossings—Syracuse Grade Crossing Commission having plans prepared for elimination of grade crossings in city.

N. J., East Orange—Elimination of Grade Crossings—George F. Swain, Consult. Engr., Boston, Mass., retained by city to prepare plans for elimination of grade crossings along line of Lackawanna R.R.

N. J., Englewood—Ferry House and Slip—Plans being prepared for two-story ferry house and slip at foot of Palisade Ave. for Dyckman St. and Englewood Ferry Corporation, care of Brooklyn and Manhattan Ferry Corporation. Estimated cost, $50,000.

N. J., Jersey City—Park—Hudson County Board of Freeholders appropriated $500,000 to purchase Suckley Estate and improve same for park.

N. J., Morris Plains—Fire House—Bids will soon be received for addition to fire house for New Jersey State Hospital for Insane. Estimated cost, $10,000.

N. J., Wildwood—Pier—Casino Pier Co. will build pier. Heber Crane, Pres.

Penn., Philadelphia—Fire Station—Plans being prepared by City Arch. for fire station at Montgomery and Girard St. Estimated cost, $20,000. George S. Webster, City Engr.

Va., Newport News—Marine Railway—O. A. Bloxom, Battery Park, contemplates building marine railway and oyster-shucking plant.

Miss., Gulfport—Park—City will issue $125,000 bonds for purchasing and improving land for park. George M. Foote, Mayor.

Tenn., Knoxville—Parks—Election will be held Jan. 29 to vote on $50,000 bonds for parks.

Tenn., Waverly—City Commissioners of Nashville plan to build fire house in Waverly. G. J. Tompkins, Comr. of Fire Dept.

Ill., Chicago—Fire Engine House—City will build fire engine house at 4426 North Kedzie Ave. Estimated cost, $19,000. C. W. Kallal, Arch.

Wis., Superior—Dock—Reported that plans will be prepared for replacing ore dock No. 3 at Allouez Bay for Great Northern Ry. during winter of 1916 and 1917. Estimated cost, $1,000,000. A. H. Hogeland, St. Paul, Minn., Ch. Engr.

Wis., West Allis—Grandstand—Plans prepared by Alfred C. Clas, Arch., 520 Colby-Abbot Bldg., Milwaukee, for two sections of concrete grandstand in State Fair Park for State Department of Agriculture. Estimated cost, $50,000. C. P. Norgord, Madison, Comr.

Wis., West Allis—Park Buildings—Plans prepared by Alfred C. Clas, Arch., 520 Colby-Abbot Bldg., Milwaukee, for 100x150-ft. swine and sheep barn in State Fair Park for State Department of Agriculture. C. P. Norgord, Madison, Comr. Estimated cost, $44,000.

Minn., St. Paul—Marble Balustrade and Steps—Bids will be received until 10:30 a.m., Jan. 10, by A. Hohenstein, Pur. Agt., for marble balustrade and steps about the St. Paul Library.

Mo., St. Louis—(Official)—River Terminals—Bids will be received in spring for seven-story, 100x250-ft. river terminal and warehouse for St. Louis River Front and Dock Association. Estimated cost, $250,000. J. L. Wees, 419 Commercial Bldg., St. Louis, Arch. Noted Dec. 16.

Ark., Bridge Junction—(Hopewell post office)—Levee Work—St. Francis Levee Board petitioned River and Harbor Committee of Congress to seek government aid for levee work from Pecan Point to Bledsoe, 76 miles. H. D. Tomlinson, Pres.

Wash., Tacoma—Improving White and Puyallup Rivers—William S. Mitchell and M. Gardner, United States Government Engrs., retained by Inter-County River Improvement Board to review and pass on work done on improvements along White and Puyallup Rivers and to make suggestions.

Calif., Los Angeles—Elimination of Grade Crossings—City Board of Public Utilities approved plans of Pacific Electric Ry. Co. for elevating tracks from station at Sixth and Main St. to San Pedro St. and for terminal improvements. Estimated cost, $300,000. Noted Nov. 11.

Calif., Los Angeles—Subway—Plans being prepared for rearranging tracks at Hill St. Station preliminary to building subway under Olive St., west of station, about 6 miles. Estimated cost rearranging tracks, $40,000; subway, $12,000,000. Noted Nov. 18.

Calif., Manhattan—Pier—Board of Trustees contemplates constructing pleasure pier at Center St. and pavilion at Martin Ave. Estimated cost, $70,000 and $20,000 respectively.

Calif., San Francisco—Automatic Sprinklers—Board of Public Works considering installation automatic sprinklers in city car barns. Estimated cost, $54,000. Frederick J. Churchill, Secy., Bd. of Pub. Wks.

Calif., Santa Monica—Wharf—Santa Monica Land Co. contemplates building wharf, 560-ft. long and 24-ft. wide, at Santa Monica Cañon.

Que., Montreal—Comfort Stations—Plans prepared for three comfort stations at Chaboillez, d'Armes and Dominion Sq. for city. Estimated cost, $5,000, $8,000 and $10,000 respectively. A. Chausse, Arch., City Hall.

Que., Sherbrooke—Subway—City Council contemplates constructing subway in Richelieu St. Estimated cost, $10,411. E. C. Gatien, Clk.

Ont., Port Stanley—Comfort Stations—London & Port Stanley Ry. contemplates construction of four comfort stations. William Spittal, Secy.

MISCELLANEOUS

Bids In and Contracts Awarded

N. Y., Cold Spring Harbor—(Official)—Retaining Walls—Contract for reinforced-concrete foundations and retaining walls for residence of Otto H. Kahn awarded to STEWART ENGINEERING CORPORATION, 17 Battery Pl., New York, at $150,000.

N. Y., New York—(Borough of Brooklyn)—(Official)—Steel Tank—Contract for steel tank and fittings for storage of liquid asphalt at municipal asphalt plant, Seventh St. and Gowanus Canal awarded to P. P. FARLEY, 103 Park Ave., New York, at $5,335. Noted Dec. 16.

N. Y., New York—(Borough of Manhattan)—(Official)—Market—Bids received Dec. 20 by Marcus M. Marks, Borough Pres., for market under Queensborough Bridge, 59th and 60th St., First Ave. and Ave A, from A. W. King, 1511 Bryant Ave., $13,955; W. F. Plass & Bros., 145 West 18th St., $14,850; Thomas J. Waters Co., 271 West 125th St., $14,900. Noted Dec. 16.

N. J., Stoneharbor—Jetties—Contract for bulkhead and jetties for ocean front protection awarded to HILL DREDGING CO., Atlantic City, at $192,414. Noted Sept. 9.

Penn., Philadelphia—Coal Pockets—Contract awarded to C. P. BOWER, Roberts and Wayne Ave., Philadelphia, at $76,130, for coal pockets on Emerald St. for Philadelphia & Reading Ry. Co. Noted Nov. 25.

Penn., Philadelphia—Elevated Railway Work—Bids received Dec. 14 by A. M. Taylor, Dir. Dept. of City Transit, for steel superstructure and appurtenant work for two-track elevated railway in Frankford Ave. from Unity to Dyre St., under Contract No. 519, from American Bridge Co., $249,000; McClintic-Marshall Co., $263,000; Phoenix Bridge Co., $269,800. Noted Nov. 18.

Penn., Philadelphia—Pier—Contract for superstructure of Pier No. 78 at foot of McKean St. awarded to SNARE & TRIEST, Woolworth Bldg., New York, N. Y., at $488,600. Noted Nov. 25 and Dec. 9.

Del., Claymont—Pier—General Chemical Co., Marcus Hook, Penn., awarded contract for pier to JOHN MONKS & SONS, 82 Beaver St., New York, N. Y. Estimated cost, $200,000.

Fla., Daytona—Pavilion—Contract for 150x150-ft. pavilion with about 40-ft. extending over river for C. G. Burgoyne, awarded to JACOB ESPEDAHL, Daytona. Estimated cost, $10,000. Noted Dec. 23.

Ohio, Cleveland—Grading Subway—Contract for grading subway at Hamilton Ave. and Pennsylvania R.R. awarded to J. UDELSON, 2410 East 49th St., Cleveland. Noted Nov. 25.

Ind., Indianapolis—Track Elevation—Bids received Dec. 15 by Board of Public Works for removal of bridge and construction of traffic ways under Vandalia R.R. in connection with track elevation from O'Hogan & Lake Co., Chicago, Ill., Sections H, J, K and M, $43,890; Marsh, Cleary & White Co., Chicago, Ill., Sections H, J, K and M, $47,499; Walsh Construction Co., Cleveland, Ohio, Sections H, J, K and M, $46,000; Dunn-McCarthy Co., Chicago, Ill., Sections H, I, J, K, L and M, $53,659.

Kan., Leavenworth—Riprapping River Bank—Chicago, Burlington & Quincy R.R. awarded contract for willows to be used in riprapping river bank to WARREN HOUSER, Weston. Estimated cost, $75,000.

BUILDINGS

Other items relative to Building Construction will be found under the following headings: "Industrial Works," "Federal Government Work" and "Miscellaneous."

Proposed Work

Mass., Beverly—School Committee will submit proposition to City Council for building high school on City Home site near Cedar St. Estimated cost, $300,000.

Mass., Brookline—Plans prepared for three-story addition to high school. Estimated cost, $125,000. Andrews, Jacques & Rantoul, 50 Congress St., Boston, Arch. Noted Oct. 28 and Aug. 12.

Mass., Westfield—Plans being prepared by C. A. Tinker, Arch., 318 Main St., Springfield, for two-story theater for Goldstein Bros. Estimated cost, $60,000.

Mass., Westfield—Plans being prepared by M. B. Harding, Arch., Westfield, for one-story, 116x178-ft. school. Estimated cost, $50,000. J. M. Dutton, Chn. School Bd. Noted Oct. 21.

R. I., Pawtucket—Pawtucket and Central Falls Aerie of Eagles plan to build home.

N. Y., Binghamton—Plans being prepared for five-story bank and office building for People's Trust Co. Estimated cost, $50,000. E. W. Dickerman, Perry Bldg., Arch.

N. Y., Medina—Board of Education contemplates building schools. Estimated cost, $135,000.

N. Y., Rochester—Plans being prepared by Hutchinson & Cutler, Cutler Bldg., Rochester, for eight-story, 33x110-ft. medical building on Chestnut St. for F. L. Greene & Co., 33 Exchange St. Estimated cost, $75,000.

N. Y., Rochester—Plans being prepared by Foster & Gade, Arch., Sibley Bldg., for three-story building for Home for Friendless. Estimated cost, $200,000. A. M. Lindsey, 250 Main St., E., Pres., Bd. of Dir.

N. J., Newark—City will erect memorial building at Camp and Broad St. Estimated cost, $1,500,000. Thomas L. Raymond, Mayor.

Penn., Allentown—(Official)—We have been informed that Louis E. Jallade, 37 Liberty St., New York, N. Y., is Arch. for six-story addition to Y. M. C. A. building and Ruhe & Lange, Allentown, Assoc. Arch. Estimated cost, $100,000. Noted Dec. 16.

Penn., Braddock—Plans will be prepared by W. W. Williams, Arch., Magee Bldg., Pittsburgh, for church and rectory for S. S. Mary and Paul Church. Estimated cost, $75,000.

Penn., Loretto—St. Francis College plans to build seminary and faculty building. Estimated cost, $50,000. G. Puderbaugh, Hutchinson Bldg., Altoona, Arch.

Penn., Ogontz—Plans being prepared by H. Trumbauer, Arch., Land Title Bldg., Philadelphia, for private school for A. A. Sutherland. Estimated cost, $100,000.

Md., Baltimore—Plans being prepared by Otto G. Simonson, Arch., Maryland Casualty Tower, Baltimore, for 10-story hotel at Light and German St. for Southern Hotel Co.

Md., Baltimore—Revised plans being prepared by J. Evans Sperry, Arch., 409 Calvert Bldg., Baltimore, for six-story building at Park Ave. and Franklin St. for Y. W. C. A. Estimated cost, $200,000. Isabel Harmon, Secy.

D. C., Washington—Plans being prepared by Thomas W. Lamb, Arch., 644 Eighth Ave., New York, N. Y., for two-story, 132x153-ft. theater at 12th and F St. for Marcus Loew, 1493 Broadway, New York, N. Y.

D. C., Washington—Plans being prepared for 10 buildings at Wisconsin Ave. and Davis St. for National School of Domestic Art and Science. M. A. Zurhorst, 1753 Rhode Island Ave., Washington, Principal.

Va., Atlee—Bids will be received until noon Jan. 15, by Board of School Trustees, Henry District, Hanover County, for school. Charles M. Robinson, Inc., 508 Times-Dispatch Bldg., Richmond, Arch.

W. Va., Charleston—W. P. Ginther, Arch., 416 Everett Bldg., Akron, Ohio, preparing plans for three-story addition to St. Francis Hospital. Estimated cost, $40,000.

W. Va., Huntington—Boone County Land Co. will construct store and hotel building. Estimated cost, $40,000.

W. Va., Huntington—Marshall College will erect physical education building. C. I. Woodley, Pres.

W. Va., Morgantown—West Virginia University will build additions to institution. Estimated cost, $75,000.

W. Va., Moundsville—St. Xavier's Congregation plans one-story, 60x90-ft. church and rectory. Estimated cost, $40,000.

W. Va., Point Pleasant—Plans being prepared by H. R. Warner, Capitol St., Charleston, for remodeling hotel into bank, hotel, lodge and store building for Spencer Hotel Co. J. S. Spencer, interested.

W. Va., Wheeling—Plans prepared for 10-story, 50x115-ft. bank, store and office building for Security Trust Co. Estimated cost, $250,000. E. B. Franzheim and F. F. Faris, Schmulbach Bldg., Wheeling, Associate Arch.

W. Va., Wheeling—Plans being prepared by F. F. Faris, Arch., 420 Schmulbach Bldg., Wheeling, for two-story church for Trinity Lutheran Congregation. Estimated cost, $40,000.

N. C., Durham—Citizens voted $75,000 bonds for two schools on Moorehead School site. G. W. Watts, Chn. School Trustees. Noted Oct. 21 and Nov. 18.

N. C., Kinston—Reported that Atlantic Coast Line R.R. and Southern R.R. contemplate building union station. J. E. Willoughby, Wilmington, Ch. Engr., Atlantic Coast Line R.R.

N. C., Rocky Mount—J. C. Mount, Rocky Mount, prepared plans for bank building at 144 South Main St. for Rocky Mount Savings and Trust Co.

S. C., Greenville—A permanent Exposition Building will be constructed by Southern Textile Association. Estimated cost, $50,000.

S. C., Rock Hill—Congregation of First Baptist Church plans to construct three-story edifice. Estimated cost, $40,000.

Ga., Macon—Curran R. Ellis, Arch., Macon, retained by Board of Education to prepare plans for Vineville School. Estimated cost, $40,000.

Ala., Hamilton—Sixth School District plans to build school. Estimated cost, $465,000.

Ala., Seminole—J. B. Wiggins, H. C. Maley and J. G. Bucham, Chicago, Ill., will build club house at Seminole. J. C. Pollock, Gen. Mgr.

Miss., Biloxi—Plans being considered by Biloxi Lodge, Loyal Order of Moose, for new building. F. J. Weiss, Chn. of Bldg. Com.

Miss., Clarksdale—Board of Supervisors contemplates remodeling court house. J. W. Cutler and Charles W. Clark, interested.

Miss., Gulfport—Plans being prepared by Nolan & Torre, Arch., New Orleans, La., for two-story hospital for Kings Daughters. Estimated cost, $40,000.

Miss., Marion—Election will be held Jan. 4 to vote on $100,000 bonds for agricultural high school. Noted Oct. 28.

Tenn., Chattanooga—Volunteer State Life Insurance Co. will build 10-story office building. Estimated cost, $415,000. Barnwell & Barnwell, Arch.

Tenn., Memphis—Plans being considered by city and county for tuberculosis hospital.

Tenn., Memphis—Baptist Memorial Hospital will construct addition. Estimated cost, $125,000.

Tenn., Morristown—Contract will soon be awarded for building for First National Bank. Estimated cost, $50,000. James R. Forgey, Pres.

Ky., Paducah—City contemplates $600,000 bond issue for schools and sewers.

Ohio, Akron—Press reports state that State will construct armory and auditorium. Estimated cost, $100,000. B. L. Barger, Secy. of State Armory Bd.

Ohio, Akron—M. O'Neil, West Market St., plans to build clubhouse to be occupied by Akron City Club Co. Estimated cost, $50,000. S. F. Ziloxi, 69 Edgerton Rd., Pres.

Ohio, Akron—Bids will be received by J. F. Barnhart, Clk., Bd. of Education, Central High School, until noon, Jan. 5, for additions to Miller and Portage Path Schools.

Ohio, Akron—Board of Education plans to construct two-story school to be known as Robinson School. Estimated cost, $50,000. J. F. Barnhart, Central High School, Clk.

Ohio, Bellaire—Baltimore & Ohio Railroad Co. will build freight station at Bellaire.

Ohio, Canton—W. E. Koltz, Vice-Pres. Canton Drop Forge Co., is interested in a project to build motion-picture theater at Market Ave. and Second St. Estimated cost, $65,000.

Ohio, Lebanon—Election will soon be held to vote on $65,000 bonds for courthouse for Warren County.

Ohio, Mt. Vernon—William A. Ashbrook, Congressman, introduced bill which calls for appropriation of $100,000 for public building.

Ohio, Newburg—(Cleveland post office)—Revised plans prepared by W. J. Carter, Arch., Illuminating Bldg., Cleveland, for four-story temple for Newburg Masonic Temple Co. Estimated cost, $60,000. Noted under Cleveland, Ohio, Dec. 23.

Ohio, Salem—Independent Hose Co. will build club house at Salem.

Ohio, Wilmington—Bids will soon be received for three-story courthouse and jail for Clinton County. Estimated cost, $300,000. Weber, Werner & Adkins, 1206 Mercantile Library Bldg., Cincinnati, Arch. Noted Dec. 2.

Ohio, Youngstown—Plans will be prepared by H. Lyman Ford, Arch., 206 Hippodrome Arcade, Youngstown, for two-story store and apartment building on Wick Ave. Estimated cost, $70,000.

Ohio, Zanesville—Municipal Committee of Chamber of Commerce contemplates city hall and market. Estimated cost, $100,000. H. C. Van Voorhis, Chn. of Com.

Ind., Elkhart—B. Haynes, Lunger Bldg., plans four-story, 70x85-ft. office building at Marion and Second St. Estimated cost, $40,000. Ellwood & Ellwood, South Main St., Elkhart, Arch.

Ind., Hammond—All Saints Congregation contemplates church. Estimated cost, $150,000.

Ind., Indianapolis—Contract will soon be awarded for four-story bank and office building for Meyer & Kiser Bank. D. A. Bohlen & Son, 1012 Majestic Bldg., Arch. Noted Dec. 9.

Ind., Michigan City—Bids will be received about Jan. 17 by Worthman & Steinbach and C. L. Pointek, Archs., 1859 West Chicago Ave., Chicago, Ill., for edifice for St. Stanislaus Church. Estimated cost, $100,000.

Ind., South Bend—Plans being prepared by E. L. Tilton, Arch., 32 Broadway, New York, N. Y. (Borough of Manhattan), for library for Notre Dame University. Estimated cost, $150,000.

Mich., Ann Arbor—Trustees of University of Michigan plan to build library. Estimated cost, $350,000.

Mich., Detroit—Y. W. C. A. will construct building at East Adams Ave. and Witherell St. Estimated cost, $250,000.

Mich., Flint—Preliminary plans prepared by Starrett & Van Vleck, Arch., 8 West 40th St., New York, N. Y., for six-story bank and office building for First National Bank.

Mich., Flint—Malcomson & Higgenbotham, Arch., Detroit, will prepare plans for two schools for Board of Education.

Mich., Pontiac—Press reports state that a moving picture and vaudeville theater will be constructed on site of Hotel Wenonah on South Saginaw St. Estimated cost, $70,000.

Ill., Chicago—Plans being prepared by Holsman & Hunt, 332 South Michigan Ave., for five-story hotel for A. B. Mulvey. Estimated cost, $150,000.

Wis., Milwaukee—Milwaukee Athletic Club will build home at Mason St. and Broadway. Estimated cost, $300,000.

Wis., Portage—Board of Education considering plans to construct central school or two individual schools, one on east side and one on west side.

Wis., Waukesha—Citizens defeated $120,000 bonds for schools. G. B. Harris, Pres.

Wis., West Allis—Board of Education plans to build high school next year. G. Mahoney, Secy.

Iowa, Audubon—Election will soon be held to vote on bonds for school.

Iowa, Belmond—Preliminary plans prepared by G. L. Lockhart, Arch., Endicott Bldg., St. Paul, Minn., for high and grade school. Estimated cost, $70,000. A. Fitts, Belmond, Secy., Bd. of Education.

Iowa, Waterloo—Citizens voted $250,000 bonds for high school. W. H. Brunn, Secy., Bd. of Education. Noted Nov. 25.

Iowa, Waukon—Plans will be prepared by Charles A. Dieman Co., Arch., 405 Granby Bldg., Cedar Rapids, for school. Estimated cost, $60,000.

Kan., Caldwell—Bids will soon be received for two-story school. Estimated cost, $50,000. S. S. Voigt, 411 Barnes Bldg., Wichita, Arch., and J. E. Damon, Caldwell, Secy., Bd. of Education.

Kan., Emporia—College of Emporia contemplates new building. Estimated cost, $100,000. W. A. White, Chn.

Neb., North Platte—Bids will be received about Feb. 15 for high school. Estimated cost, $50,000. Bert M. Reynolds, North Platte, Arch. Noted Dec. 23.

Mont., Billings—Billings Labor Unions will construct three-story, 50x140-ft. building. Estimated cost, $70,000. H. Anderson, Chn. Bldg. Com. Dedrick & Piper, Billings, Arch.

Mo., St. Louis—E. C. Simmons will construct building to be occupied by Franklin Bank. Estimated cost, $125,000. Guy C. Mariner, St. Louis, Arch.

Tex., Brownsville—Citizens voted $100,000 bonds for purchasing site and building high and ward schools for Brownsville Industrial School District. Noted Nov. 25.

Tex., El Paso—Plans prepared by Trost & Trost, Arch., for two-story building for H. R. O. Realty Co., St. Louis. Estimated cost, $45,000.

Tex., Marshall—Election will be held Jan. 18 to vote on $60,000 bonds for schools.

Okla., Alva—Citizens voted $90,000 bonds for high school. Noted Nov. 18.

Okla., Chickasha—Citizens voted $70,000 bonds for school for Board of Education.

Ariz., Prescott—Yavapal County will build two-story courthouse. Estimated cost, $200,000. R. T. Belcher, Clk., Bd. of Superv.

Ariz., Safford—Plans being prepared by Lescher & Kibbey, Arch., Phoenix, for two-story, 60x82-ft. courthouse for Graham County. Estimated cost, $45,000.

Calif., Bakersfield—(Official)—Citizens voted $75,000 bonds for two schools. James Egan, Secy., School Com. Noted Dec. 9.

Bids in and Contracts Awarded

Mass., Belmont—Contract for high school awarded to LEIGHTON-MITCHELL CO., 95 Milk St., Boston, at $84,000.

Mass., Marlboro—School Committee awarded contract for school on Washington St. to THOMAS P. HURLEY, Marlboro, at $40,487. Noted Sept. 23.

Mass., Salem—George T. O'Brien, 10 Palmer St., Cambridge, at $61,659, submitted lowest bid for addition to Bowditch School. Noted Dec. 9 and 16.

Mass., Springfield—Contract awarded to ERNEST F. CARLSON CO., Springfield, for theater, garage, bowling alleys and billiard room for Russell C. Parsons.

N. Y., New York—(Borough of Manhattan)—Contract awarded to LEVIN BROS., 320 Fifth Ave., for one-story, 53x93-ft. synagogue for Wel Israel Anshe Poland Congregation. Estimated cost, $75,000.

N. Y., New York—(Borough of Manhattan)—Contract for nine-story nurses home and 70x72-ft. superintendent's house on Lexington Ave. for German Hospital and Dispensary awarded to A. A. SMITH, 69 East 91st St.

N. J., Jersey City—Contract for a theater for the National Theater Co., 1326 St. Nicholas Ave., New York, N. Y., awarded to WELLS CONSTRUCTION CO., 235 Fifth Ave., New York, N. Y. Estimated cost, $65,000.

Penn., Philadelphia—(Official)—Contract awarded to MELODY & KEATING, 1218 Chestnut St., Philadelphia, at $227,918, for 31-room school at B and Allegheny Ave. and nine-room addition to school at 70th and Woodland Ave. Noted Dec. 9.

Ohio, Akron—Contract for Jennings School awarded to DAWSON CONSTRUCTION CO., Columbus. Estimated cost, $70,000. Noted Dec. 2.

Ohio, Athens—Contract for church and Sunday school for First Christian Church awarded to B. DAVIDSON, 152 North Congress St., Athens. Estimated cost, $40,000. Noted Nov. 18.

Ohio, Cincinnati—(Official)—Contract for Industrial Arts Building, tunnel K, power house, stadium, gymnasium and tunnel J. of Eastside High School awarded to ROUCHE-BRUNNER CO., Cincinnati, at $390,700. Noted Dec. 2.

Ohio, Cleveland—County Commissioners awarded contract for detention home on Franklin Ave. to WILLIAM MOORE & CO., at $59,990. Noted Nov. 4.

Ind., Culver—Contract for armory awarded to JAMES I. BARNES, Logansport.

Mich., St. Joseph—Contract for high school awarded to F. H. BEAUMAN CO., at $75,977. Noted Dec. 23.

Wis., Madison—T. C. McCARTHY, 848 Jeunifer St., Madison, at $49,249, awarded contract for Agricultural Soils Bldg., for University of Wisconsin. M. E. McCaffery, Secy.

Wis., Madison—Contract for physics building for University of Wisconsin awarded to WISCONSIN CONSTRUCTION CO., Chippewa Falls. Estimated cost, $200,000. M. E. McCaffery, Secy.

Iowa, Alton—(Official)—Contract for school for Board of Education awarded to H. M. BOSMA, Sheldon. Noted Dec. 16.

MONT CLARE BRIDGE, PHOENIXVILLE, PENN.

Bids were received Dec. 21 by the Commissioners of Montgomery and Chester Counties for the construction of a reinforced-concrete bridge across the Schuylkill River between Phoenixville and Mont Clare from (A) T. L. Eyre, Philadelphia; (B) F. M. Talbot Co., New York, N. Y.; (C) Thomas Sheahan, Hagerstown, Md.; (D) E. W. Foley, New York, N. Y.; (E) Foster Construction Co., Newark, N. J.; (F) Ferro Concrete Co., Harrisburg; (G) Whittaker & Diehl, Harrisburg; (H) J. E. Bunting & Co., Flushing, N. Y.; (I) Day & Zimmerman, Philadelphia; (J) Ambler Davis Co., Philadelphia; (K) Mason, Hilton & Co., New York, N. Y.; (L) National Foundation and Engineering Co., Cleveland, Ohio; (M) Dravo Contracting Co., Pittsburgh; (N) William C. Evans, Ambler, Penn. The item bids were as follows:

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
Lump sum bid	$113,400	$85,376.61	$92,335	$98,776	$127,437	$99,439	$89,739	$108,000	$94,091	$80,894	$88,200	$108,080	$86,625	$84,027
1,200 cu.yd. foundation excavation, earth	4.20	3.90	3.00	7.00	.75	4.50	3.00	8.00	2.80	2.00	10.00	1.00	3.50	2.40
30 cu.yd. foundation excavation, rock	4.60	3.90	4.00	10.00	2.50	5.00	4.00	10.00	2.80	5.00	10.00	5.00	4.50	6.00
100 cu.yd. river dredging	.48	.50	2.00	1.00	1.00	3.00	3.00	1.00	.25	2.00	2.50	1.00	.60	2.00
100 cu.yd. roadway grading	.48	.40	.75	1.00	1.00	1.00	.75	.60	.30	.75	1.00	.40	.50	.90
1,400 lin.ft. hardwood piles	.36	.40	.70	.50	.75	1.00	.25	.60	.25	1.00	.50	.38	.40	1.00
900 cu.yd. concrete piles	.94	2.20	2.20	1.50	1.75	3.00	.50	1.00	1.00	3.00	2.00	1.40	1.50	2.10
10 cu.yd. class "A" concrete	14.40	11.00	12.50	10.00	12.50	15.00	15.00	8.50	8.00	30.00	12.00	10.00	11.00	20.00
100 cu.yd. class "B" concrete	8.40	7.00	7.50	9.00	10.00	12.00	9.00	8.00	6.80	25.00	10.00	7.00	8.25	15.00
963 cu.yd. class "C" concrete	7.20	8.25	7.00	8.00	10.00	12.00	8.00	7.50	5.75	7.00	10.00	7.00	7.25	8.00
10 cu.yd. concrete in balustrade	24.00	25.00	27.00	20.00	24.00	25.00	30.00	20.00	15.00	45.00	20.00	32.00	23.00	40.00
250 lin.ft. bush hammered surface	.12	.07	.10	.06	.03	.70	.20	.20	.10	.50	.10	.06	.05	.40
2,000 lin.ft. carbor. rubbed surface	.06	.05	.05	.05	.03	.15	.10	.10	.02½	.50	.05	.05	.02	.65
108 sq.ft. wood block pavement	3.60	2.20	2.00	3.00	2.50	2.00	1.75	2.60	2.65	2.25	2.00	2.50	2.80	3.70
292 sq.ft. metropolitan block pavement	3.00	1.90	2.50	3.00	2.15	4.00	1.50	3.35	1.90	2.10	2.00	2.50	2.30	2.30
108 sq.ft. standard amiesite pavement	3.72	1.50	2.50	3.00	1.65	2.00	1.50	3.25	1.60	1.50	2.00	4.50	2.30	1.40
292 sq.ft. Belgian or granite block	3.36	3.20	3.50	3.00	3.35	2.00	1.75	3.25	2.45	3.25	2.75	3.00	2.75	3.00
500 cu.yd. waterproofing	.10	.08	.15	.10	.20	.20	.15	.25	.12	.40	.25	.10	.16	.50
3,500 lb. reinforcing steel	.05	.03	.03½	.04	.03	.04	.05	.03½	.03½	.05	.05	.03½	.03	.06
240 lin.ft. curb protection bar	.24	.15	.20	.30	.15	.15	.20	.15	.10	.15	.15	.25	.15	.12
240 lin.ft. 6-duct t.c. conduit	.36	.50	.35	.50	.35	.50	.25	.50	.27	1.50	.35	1.25	.30	1.00
240 lin.ft. 2-duct t.c. conduit	.24	.30	.12	.20	.14	.20	.10	.20	.09	1.00	.15	.40	.10	.40
40 lin.ft. metal conduit	.24	.27	.20	.30	.20	.15	.15	.20	.15	.75	.25	.25	.15	.60
1,500 lin.ft. sidewalk and curb finish	.07	.05½	.05	.10	.10	.20	.07	.15	.05	.25	.05	.15	.03	.22
10 lin.ft. 4-in. terra cotta sewer pipe	.24	.20	.50	.50	1.00	.07	.10	.30	.08	.35	.20	.50	.10	.30
100 lin.ft. 8-in. terra cotta sewer pipe	.48	.40	.70	.75	.60	.15	.12½	.40	.16	.80	.25	.35	.15	.80
300 lin.ft. 12-in. terra cotta sewer pipe	.96	.70	1.00	1.50	1.00	.30	.25	.50	.25	1.50	.30	.60	.27	1.50
2 catch basins	36.00	13.00	10.00	25.00	16.50	20.00	15.00	30.00	35.00	50.00	15.00	20.00	25.00	30.00
2 bronze light fixtures	144.00	90.00	125.00	10.00	145.00	150.00	100.00	80.00	150.00	50.00	75.00	100.00	100.00	40.00
2 draw boxes	48.00	7.50	15.00	1.00	16.50	15.00	10.00	10.00	12.50	25.00	5.00	5.00	7.00	20.00
60 cu.yd. broken stone fill	3.36	1.80	2.00	3.00	2.25	1.50	2.00	2.00	2.00	2.50	2.00	2.30	2.90	2.50
Extended totals	$132,521	$104,866	$110,765	$122,369	$145,832	$126,620	$106,188	$132,174	$107,520	$103,252	$117,212	$123,527	$104,103	$106,011

RAPID TRANSIT SYSTEM, NEW YORK, N. Y.

Section 3, Route No. 8

Bids were received by the Public Service Commission Dec. 7 for constructing Section 3, Route No. 8, a part of Eastern District Subway, under East River from Manhattan at 14th St. to North Seventh St., Brooklyn, from (A) Booth & Flinn, Ltd., 17 Battery Pl., New York; (B) Holbrook, Cabot & Rollins Corporation; (C) Degnon Contracting Co.; (D) Arthur McMullen & Olaf Hoff. The item bids were as follows:

	A	B	C	D
1,400 cu.yd. earth excavation above mean high water	$20.00	$16.00	$7.00	$14.00
2,100 cu.yd. earth excavation below mean high water	20.00	6.40	10.00	14.00
100 cu.yd. earth excavation for sewers	10.00	5.00	6.00	7.00
14,400 cu.yd. earth excavation below mean high water for shafts	25.00	15.60	25.00	60.00
100 cu.yd. rock excavation for shafts	16.85	20.00	12.00	10.00
700 cu.yd. tunnel excavation (earth) above mean high water	20.00	11.48	20.50	15.00
103,500 cu.yd. tunnel excavation (earth) below mean high water	19.40	11.48	20.50	28.00
46,200 cu.yd. tunnel excavation (rock)	19.40	14.50	25.00	31.00
8,400 cu.yd. tunnel excavation (earth and rock)	19.40	33.75	30.00	34.00
42,300 cu.yd. concrete	9.00	14.00	12.00	10.00
1,000 cu.yd. concrete placed in compressed air	15.00	16.75	18.00	20.00
10 cu.yd. rubble stone masonry	3.50	4.00	8.00	4.00
10 cu.yd. dry rubble masonry	2.50	2.50	7.00	4.00
2,400 cu.yd. dry stone packing	2.50	5.00	4.00	3.00
15 cu.yd. brick masonry	12.00	15.00	16.00	15.00
50 cu.yd. hollow terra cotta brick or tile masonry	12.00	15.00	16.00	15.00
12,000 bbl. Portland cement grout	3.50	5.00	2.50	3.50
56,000 bbl. natural cement grout	3.00	4.50	2.00	3.25
3,000 lin.ft. timber piles	.50	.50	.50	.40
100 cu.yd. broken stone or gravel	2.00	1.50	2.00	2.00
2,000 sq.yd. waterproofing 1-ply	.50	.35	.40	.50
100 sq.yd. waterproofing 2-ply	.80	.50	.50	.75
100 sq.yd. waterproofing 3-ply	1.10	.75	.75	1.00
100 sq.yd. waterproofing 4-ply	1.40	1.00	1.10	1.25
100 sq.yd. waterproofing 5-ply	1.70	1.25	1.50	1.50
100 sq.yd. waterproofing 6-ply	2.00	1.50	2.00	1.75
100 sq.yd. waterproofing dry ply	.30	.25	.40	.25
600 sq.yd. waterproofing laid in compressed air	4.00	6.50	3.00	5.00
370 cu.yd. brick laid in asphalt mastic	30.00	25.00	35.00	25.00
100 lin.ft. vitrified pipe, 12 in.	.80	.70	.80	1.00
100 lin.ft. vitrified pipe, 10 in.	.60	.65	.55	.80
100 lin.ft. vitrified pipe, 8 in.	.50	.55	.40	.65
100 lin.ft. vitrified pipe, 6 in.	.40	.50	.25	.50
100 lin.ft. vitrified pipe, 4 in.	.30	.45	.20	.40
50 lin.ft. c.i. pipe, 6 in.	.60	.70	1.00	1.10
100 lin.ft. c.i. pipe, 4 in.	.45	.65	.75	.90
50 lin.ft. c.i. pipe, 3 in. extra heavy	.65	1.00	1.00	1.00
50 lin.ft. c.i. pipe, 4 in. extra heavy	.85	1.25	1.00	1.50
7,300 lin.ft. c.i. pipe, 6 in. extra heavy	2.00	1.50	1.20	2.00
500 lin.ft. c.i. pipe, 8 in. extra heavy	2.00	2.00	1.40	2.50
312,000 duct ft. tunnel ducts	.15	.15	.12	.12
70 ton riveted steel	100.00	80.00	90.00	80.00
1,820 ton steel for caissons	160.00	217.00	125.00	130.00
15 ton steel beams and shapes	100.00	140.00	90.00	70.00
15 ton steel rods and bars	50.00	140.00	60.00	80.00
43,500 ton c.i. tunnel lining	45.00	61.50	49.00	59.00
1,600 ton steel bolts and washers in lining	80.00	229.60	90.00	125.00
15 ton miscellaneous iron castings	55.00	60.00	80.00	70.00
1 ton miscellaneous iron furnishings for manholes and basin	75.00	50.00	80.00	70.00
1,000 lb. special wire forms	.15	.10	.10	.25
32,000 lin.ft. one and three-fourths in. hand-rail	.20	.25	.50	.25
660 sq.ft. steel gratings	1.40	1.00	1.25	1.50
50 sq.ft. vault lights	1.25	.80	1.50	2.00
275 sq.yd. restoration of sidewalks	2.00	2.00	2.00	1.50
190 sq.yd. restoration of granite block pavements	3.00	2.00	3.00	1.50
270 sq.yd. restoration of Belgian block pavements	3.25	2.50	2.00	1.50
200 lin.ft. new granite curb	1.00	1.50	2.00	1.00
100 sq.yd. new cement sidewalk	1.25	1.50	2.00	1.50
50 lin.ft. conduits, ¾ in.	.20	.10	.20	.20
50 lin.ft. conduits, 1 in.	.25	.15	.30	.25
20 c.i. outlet boxes	.60	.70	1.00	1.00
100 lin.ft. 12-in. vitrified pipe sewer	1.50	2.50	2.50	1.00
100 lin.ft. 15-in. vitrified pipe sewer	2.00	3.00	3.00	1.25
1 ton c.i. pipe sewr—straight	60.00	45.00	60.00	50.00
1 ton c.i. pipe sewer—special	120.00	80.00	80.00	75.00
50 lin.ft. 3 ft., 6 in. x 2 ft., 4 in. egg sewer	5.00	4.50	8.00	6.00
100 lin.ft. 4 ft., 0 in. circular sewer	6.00	5.00	10.00	8.00
42 lin.ft. 6ft., 0 in., x 7 ft., 0 in., twin masonry sewer	40.00	24.00	30.00	50.00
Maintaining steam railroad (lump sum)	1,000.00	5,000.00	500.00	1,500.00
100 lin.ft. changin 6-in. c.i. water pipe in place	.50	.75	1.50	.50
100 lin.ft. changing 12-in. c.i. water pipe in place	1.00	2.25	2.50	.75
125 lin.ft. changing 6-in. c.i. gas pipe in place	1.00	1.15	1.25	.50
4 ton new c.i. straight pipe	50.00	40.00	50.00	50.00
300 lin.ft. new 6" w.i. gas pipe	2.00	1.50	1.50	1.50
2 ton new c.i. special pipe	110.00	50.00	80.00	60.00
600 lb. new malleable-iron fittings for new w.i. gas pipe	.15	.10	.05	.08
100 lin.ft. changing 3" wrought iron pipe	.30	1.00	1.00	.50
Engineering offices (lump sum)	30,000.00	10,000.00	10,000.00	6,000.00
Extended totals	$6,639,023	$6,907,762	$7,231,391	$9,466,560

Year's Crops—The final crop returns for the year, issued by the Department of Agriculture on Dec. 15, are not greatly different from those already forecast, the changes being decreases in the quantities of corn, buckwheat and flaxseed and gains in spring wheat, oats, rye, sweet potatoes, tobacco, rice, hay, sugar beets and cotton from the estimates previously noted. Record yields are indicated of wheat as a whole, oats, barley, rye, sweet potatoes, rice, hay and sugar beets, second best crops of corn, tobacco and apples, an average crop of potatoes, and rather short yields of cotton and flaxseed:

[Three figures omitted]

	Production 1915	Production 1914	Record Crop	Yr.
Winter wheat	655,045	684,990	684,990	19
Spring wheat	356,460	206,027	330,348	19
All wheat	1,011,505	891,017	891,017	19
Corn	3,054,535	2,672,804	3,124,746	19
Oats	1,540,362	1,141,060	1,418,337	19
Barley	237,000	194,953	223,824	19
Rye	49,190	42,779	42,779	19
Buckwheat	15,769	16,881	22,792	18
Total, six cereals	5,908,361	4,959,494	5,723,495	
White potatoes	359,108	409,921	420,647	19
Sweet potatoes	74,295	56,574	59,938	19
Tobacco, pounds	1,060,587	1,034,679	1,103,415	19
Flaxseed	13,845	13,749	29,285	19
Rice	28,947	23,649	25,744	19
Hay, tons	85,225	70,071	72,691	19
Sugar beets, tons	6,462	5,585	5,585	19
Cotton, bales	11,161	16,135	16,135	19
Apples, barrels	76,670	84,400	84,400	19

Perhaps the most notable illustration of the year's tendency toward large yields is the showing above made of the aggregate yields of six leading cereals—wheat, corn, oats, barley, rye and buckwheat—exceeding the aggregate of the high record levels of the best of past years by 185,000,000, or 3.2 per cent.

The values of the leading crops this year and last compare as follows:

	1915	1914
Corn	$1,755,859,000	$1,722,070,000
Spring wheat	308,290,000	203,057,000
Winter wheat	622,012,000	675,623,000
All wheat	920,302,000	878,680,000
Oats	555,569,000	499,431,000
Barley	122,499,000	105,903,000
Rye	41,295,000	37,018,000
Buckwheat	12,408,000	12,892,000
Total	$3,417,932,000	$3,255,994,000
Flaxseed	$24,080,000	$17,318,000
Rice	26,212,000	21,849,000
White potatoes	221,104,000	199,469,000
Sweet potatoes	46,081,000	41,294,000
Hay	912,320,000	779,068,000
Tobacco	96,041,000	101,411,000
Cotton	602,393,000	525,324,000
Sugar beets	35,800,000	30,438,000
Apples	156,407,000	156,140,000
Total	$2,120,438,000	$1,872,302,000
Grand total, 15 crops	$5,538,370,000	$5,128,296,000

Only three crops, winter wheat, buckwheat and tobacco, show smaller values than a year ago. The six grain crops show a gain of 5 per cent. over 1914; the nine other crops show a gain of 13.2 per cent., and the fifteen crops together gained 8 per cent. over last year. A notable increase in value is shown by cotton, which, despite a 44 per cent. decrease in yield, shows a 14 per cent. gain in value.

Railway Communication Between India and Ceylon is proposed by closing the present 20-mi. water gap with a solid causeway. The railways at both ends have been extended by embankments and viaducts crossing the main part of the strait at the head of the Gulf of Mannar. This includes the navigation channel, at which there is a double-leaf Scherzer rolling-lift bascule bridge of 289-ft. span, as described in "Engineering News," May 7, 1914. It is now proposed to build a causeway for the remaining 20 mi., service across which is maintained by ferry steamers. Of this distance 13 mi. will be in shallow waterways between several islands along the line of what is known as Adam's Reef, the remaining 7 mi. being on dry land across these islands. The latter portions will be sand fills, protected by riprap of coral rock. For the causeway across the water two rows of reinforced-concrete piles will be driven, 14 ft. apart, with the piles in each row spaced 10 ft. c. to c. They will be braced longitudinally by arches and transversely by ties and struts, all of concrete. Behind the piles will be placed vertical slabs, or panels, of reinforced concrete, the lower slabs being sunk well below the surface of the sand. When the slabs are in place, the inclosed space will be filled with sand. The rail level and the top of the concrete walls will be 6 ft. above high-water level. It is expected that this solid bank will cause sand to accumulate on each side of it until it forms the nucleus of a single island stretching across this part of the strait.

Immigration and Emigration—Arrivals and departures of certain races of aliens during the first 15 months of the European war, August, 1914, to October, 1915, inclusive, are given hereunder:

	Arrived	Departed	Change
German	26,414	8,508	I. 17,906
French	22,464	13,026	I. 9,438
Russian	5,298	15,601	D. 10,303
English	73,394	63,335	I. 10,059
Irish	38,626	10,877	I. 27,749
Scotch	25,840	13,058	I. 12,782
Italians (south)	54,525	175,556	D. 121,031
Italians (north)	13,453	14,116	D. 663
Polish	6,718	5,617	I. 1,101
Hebrew	21,390	2,377	I. 19,013
Greek	22,676	14,879	I. 7,797

Engineering News

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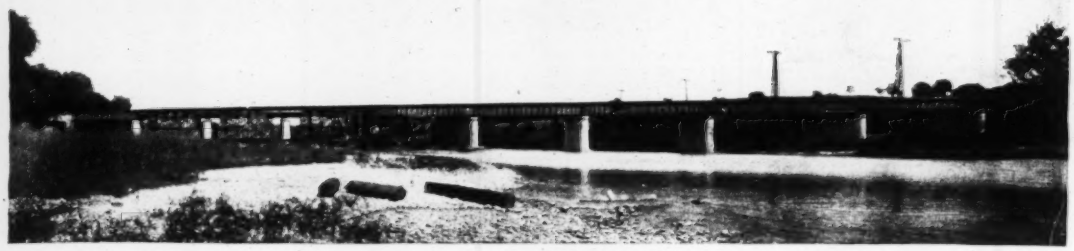
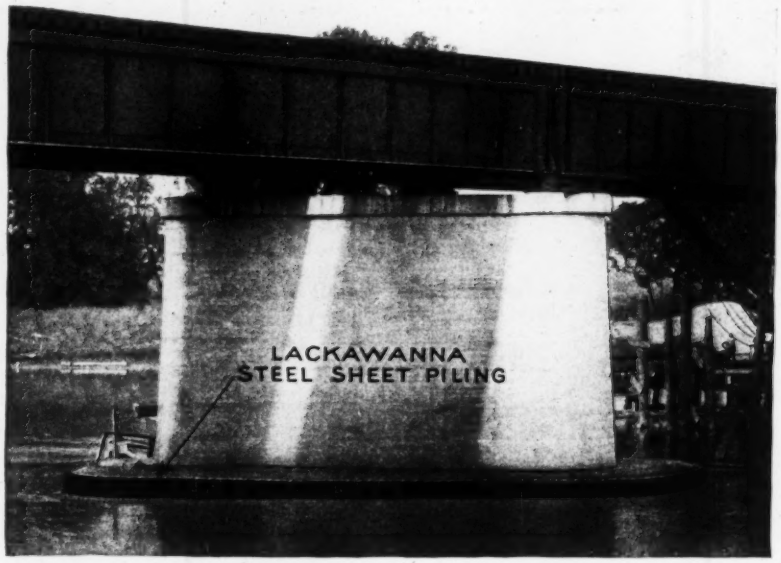


Lackawanna Steel Sheet Piling used in Reconstructing Bridges, C. C. C. & St. L. Ry.

Typical of the bridges reconstructed since the Ohio floods in 1913 is the one south of Dayton on the Miami River, as shown in the pictures.

Nine piers and two abutments here were constructed within cofferdams of Lackawanna $12\frac{3}{4}$ by $\frac{3}{8}$ in. Straight-Web Sections in 20 to 30-foot lengths.

This sheet piling was driven on the neat lines of the pier footings and acted as forms for the concrete, which was placed under water after excavation of cofferdam by a clam shell bucket. All sheet piling was left in place as indicated by the detail photo.



Mr. F. W. Smith of the Walsh Construction Co., Davenport, Ia., builder of this and other bridges in the flooded district, tells us that the performance of the Lackawanna Sheet Piling was very satisfactory.

Steel Sheet Piling used in this way fills a double purpose; *first*, it offers a means of construction as a cofferdam, and *second*, a valuable permanent protection against scouring. In the instance cited, even if the stream scoured to the full depth of the pier footings, the strength of the interlocked piling joints is enough, including a big safety factor, to hold the retained material in place. About the only river piers that withstood the floods in this district were so protected, and even if the superstructure be carried away, piers encased in sheet piling are most likely to remain intact.

Our Sheet Piling Engineers have the experience and data to hand out some decidedly valuable advice on matters of this kind, and their co-operation is yours for the asking. Our new book "Lackawanna Steel Sheet Piling" will be sent free to any consulting, contracting or managing engineer.

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CHARLES WHITING BAKER, *Editor*

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VOLUME 74 DECEMBER 30, 1915 NUMBER 27

CONTENTS

WITH PRINCIPAL ARTICLES SUMMARIZED

*ILLUSTRATED

Page

*CONCRETE-LINED RESERVOIR, SALT LAKE CITY, UTAH 1259

By Sylvester Q. Cannon

A 5,000,000-gal. reservoir lined with reinforced concrete without expansion joints. 400 w. 1 ill. ENGINEERING NEWS, Dec. 30, 1915

*LOW CONCRETE DAM AT HARRISBURG ACROSS SUSQUEHANNA RIVER 1250

By Joel D. Justin

Low dam of economical design. Precast concrete beams laid on buttresses for upper decking. 2,700 w. 7 ill. ENGINEERING NEWS, Dec. 30, 1915

POINTERS FOR COMPARING TYPES OF PUMPING UNITS 1253

By George M. Peek

Reciprocating units familiar to employees. Architectural effect equalizes cost of buildings. Comparison of two St. Louis pumps. 1,200 w. ENGINEERING NEWS, Dec. 30, 1915

*PROGRESS ON CALAVERAS EARTH DAM FOR SAN FRANCISCO 1254

The highest earth dam in the world, now under construction by the hydraulic process. 600 w. 2 ill. ENGINEERING NEWS, Dec. 30, 1915

PRESENT CONDITION OF SECOND AVE. TEST PAVEMENTS 1255

By Henry Welles Durham

Brief summary of one of the most extensive experiments with city street paving. 1,900 w. ENGINEERING NEWS, Dec. 30, 1915

STREET-CLEANING COST A FACTOR IN PAVEMENT DESIGN 1257

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EDITORIALS 1281

LETTERS 1284

NEWS OF THE ENGINEERING WORLD 1292

PERSONALS 1294

ENGINEERING SOCIETIES 1295

APPLIANCES AND MATERIALS 1296

CONSTRUCTION NEWS 395

CONTRACTS TO BE LET 33

WANT ADVERTISEMENTS 36

ADVERTISING INDEX 80

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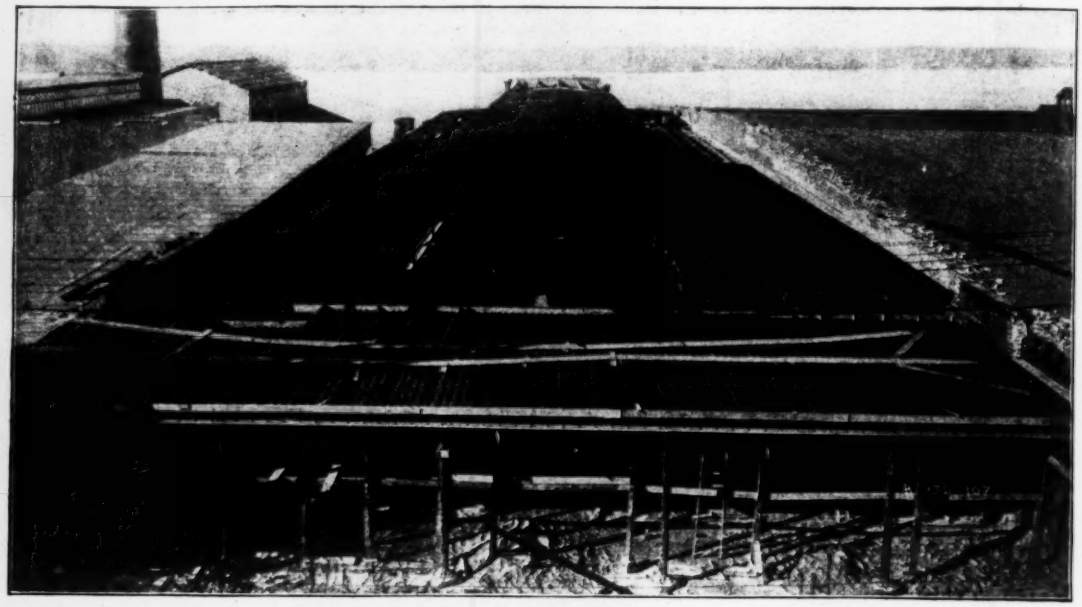

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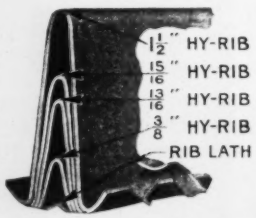

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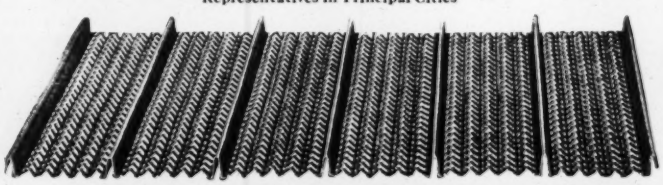

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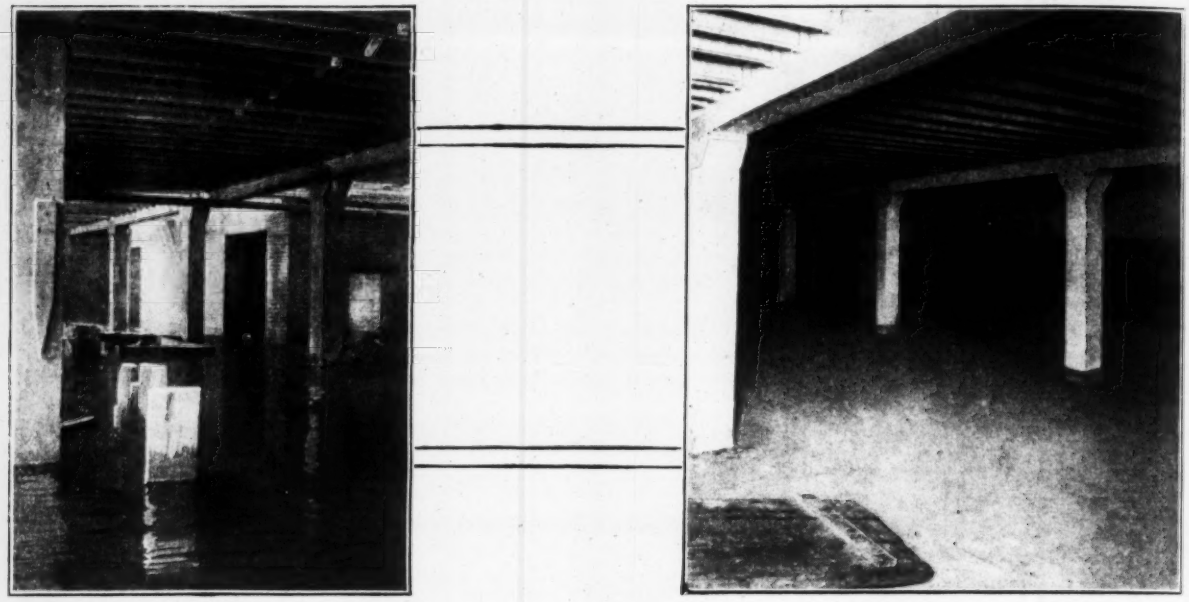

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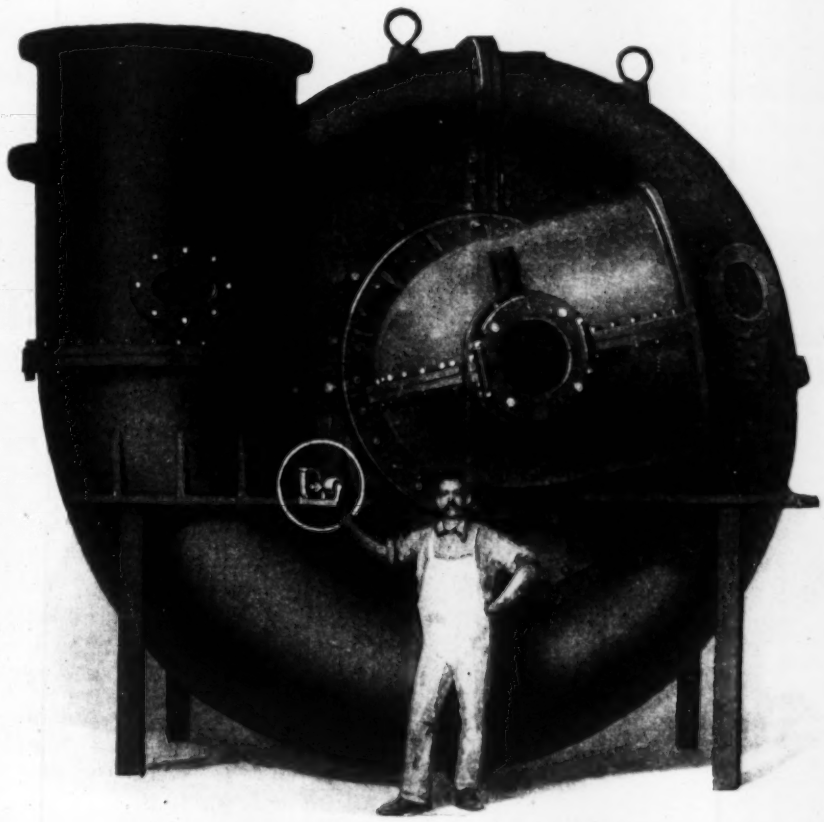

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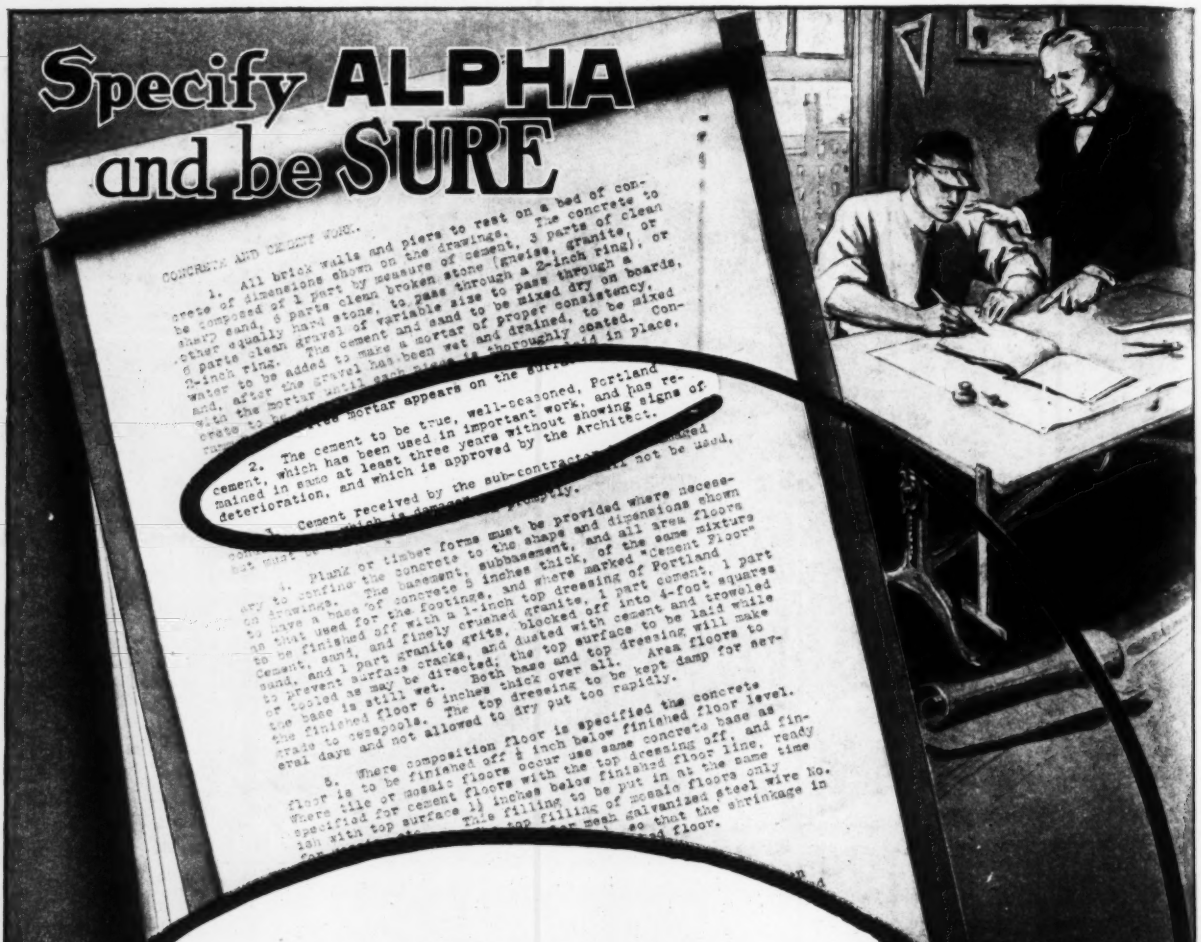

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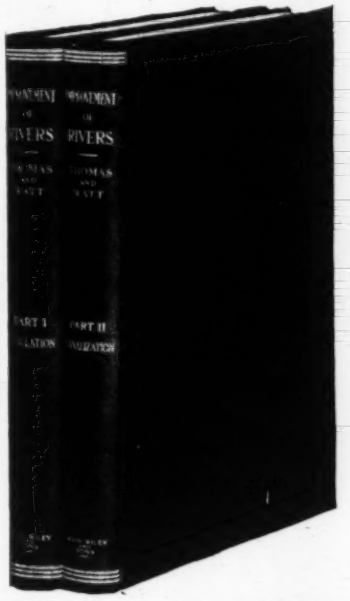

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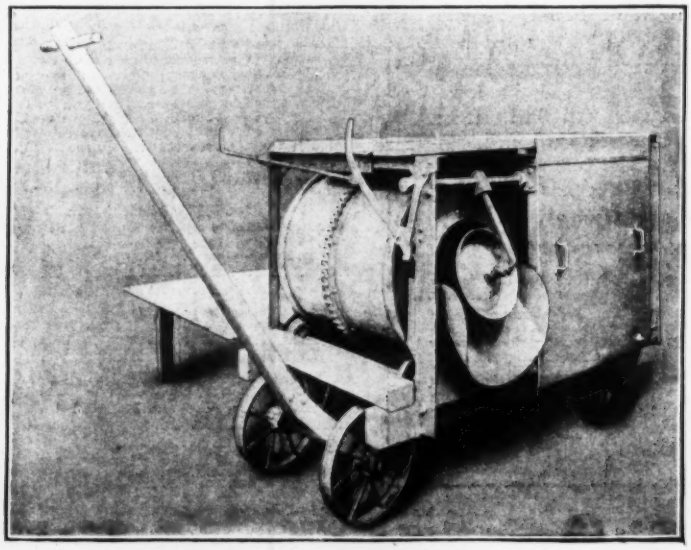

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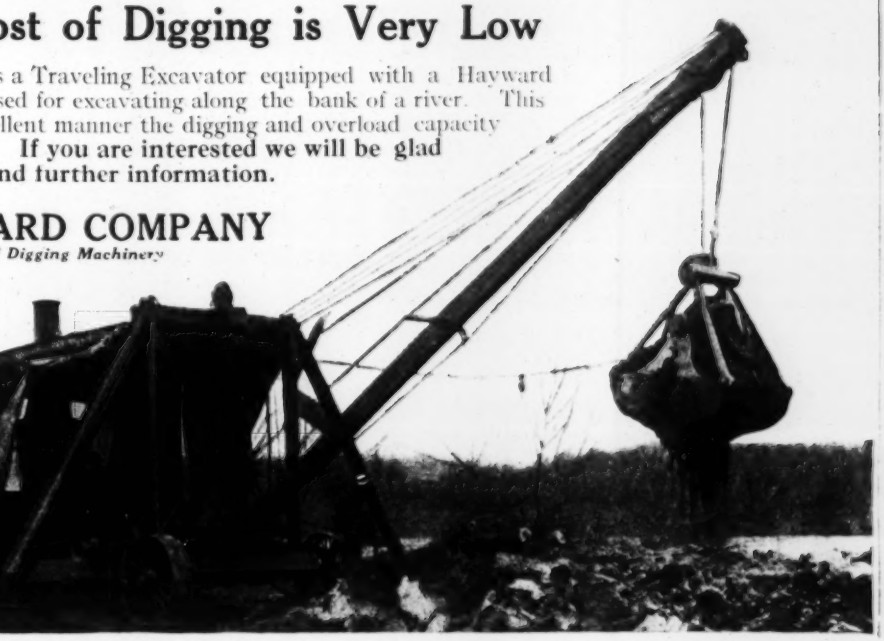

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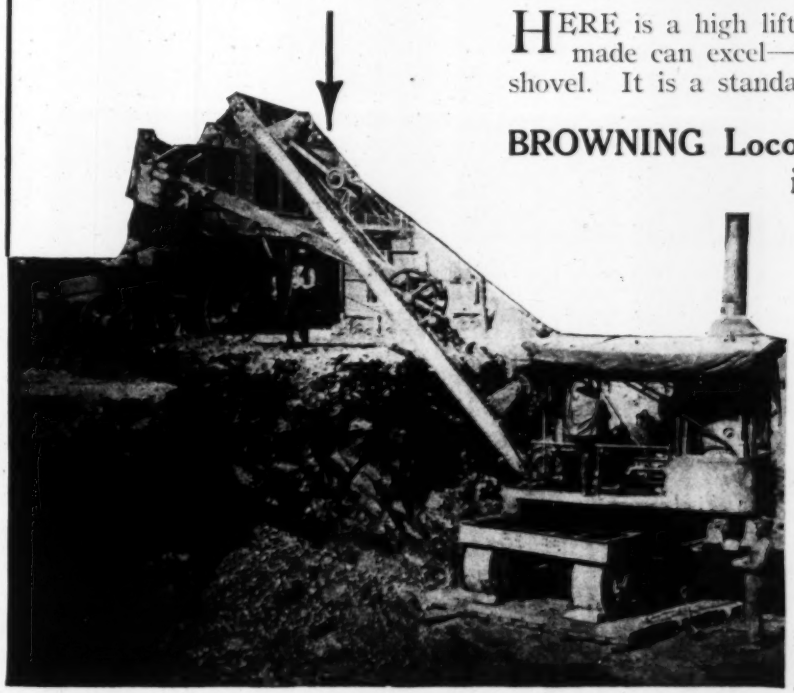

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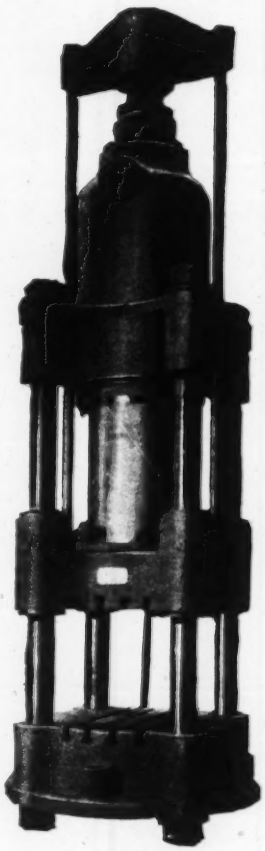

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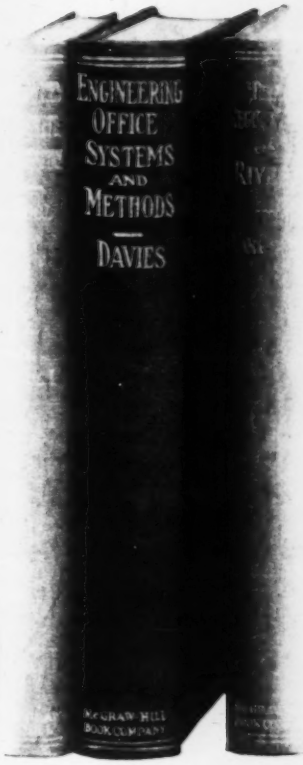

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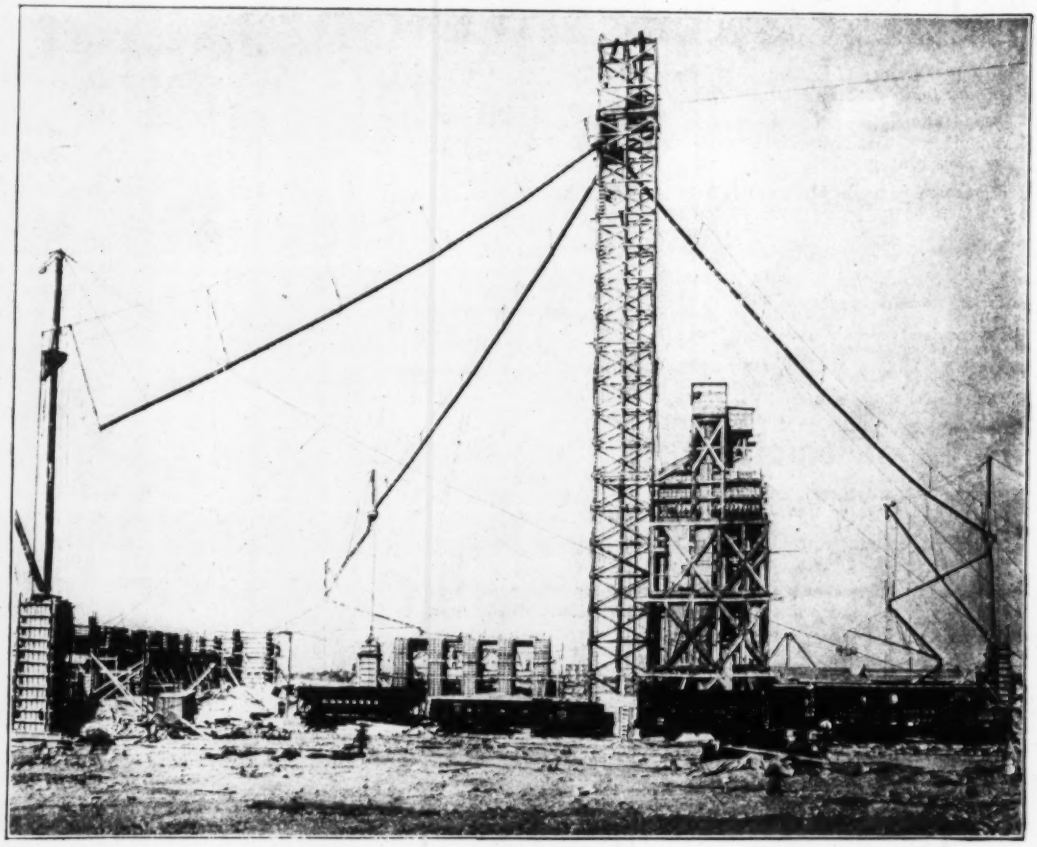

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(1) " 6 " "
(2) " 5 " "
(1) " 3 " "

We take it from these sales in this territory, (when you consider we have winter on our hands) that the contractors in and around Chicago are fast realizing the economy and simplicity of our pump; it makes a big hit with them when we actually show that the pump does not require any oil or lubrication.

We wish you would ship us at once via fast freight, pumps same as we have sold as per above, as we do not want to get caught short; trusting these will come forward at once, we remain.

Very truly yours

Mays & Talley Co.

DECEMBER 1915

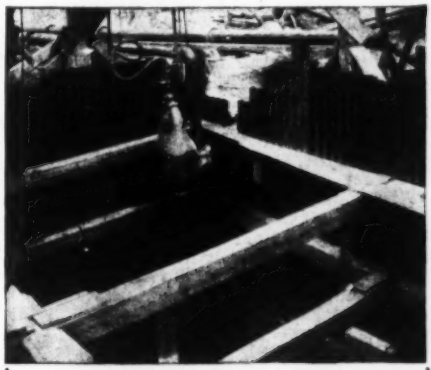
Seven Pulsometers Sold in Chicago in 17 Days

Yes, Indeed! Chicago Contractors are getting wise

This letter has just been received from our Chicago office. Read it! It explains *why* the sales of

PULSOMETER

are good even in Winter—and it shows that our constant hammering on the NO LUBRICATION feature of this pump is *right!* This *is* the point that "gets" a contractor. It "gets" him where he's tender, in the pocketbook.



Think of a pump that will handle practically anything that will flow; water thick with mud, sand, grit, pebbles and containing large quantities of air—lift it 15 or 20 feet by suction, NEVER requires any oil or grease—no special boiler—no foundation—no skilled labor. A pump that's good anywhere on any kind of excavation or pumping-out job. Why not get wise yourself? Write at once for new catalog.

Why *You* Should Buy Pulsometers

1. Will pump practically anything.
2. Are economical of steam.
3. No foundation or special boiler.
4. No skilled labor.
5. NO LUBRICATION.
6. Will pump under water or lift 15 or 20 feet by suction.
7. EXCEED THEIR RATINGS.

Pulsometer Steam Pump Company

18 Battery Place, New York

930 Lytton Bldg., Chicago

Pulsometers Carried in stock by the following Agents:

Harold L. Bond Co., 391 Atlantic Ave., Boston, Mass.
Haubtman & Loeb Co., 717 Magazine St., New Orleans, La.
Harron, Rickard & McCone, 138 Townsend St., San Francisco, Cal.
Harron, Rickard & McCone, 164 N. Los Angeles St., Los Angeles, Cal.
Miller Supply Co., Huntington, West Virginia.
Queen City Supply Co., S. W. Cor Elm and Pearl Sts., Cincinnati, Ohio.
Somers, Fitler & Todd Co., 323 Water St., Pittsburgh, Pa.
The Wheland Company, Chattanooga, Tenn.
V. H. Kreigshaber & Son, Atlanta, Ga.
Pocatello Eng. & Mach. Co., 129 So. Main St., Pocatello, Idaho.
H. A. Paine, Houston, Texas.
A. R. Williams Machinery Co., Toronto, Ont., Canada.
F. H. Hopkins & Co., Montreal, Quebec, Canada.
Henry H. Meyer Co., 110 So. Howard St., Baltimore, Md.
Standard Supply & Equipment Co., 1810 Market St., Philadelphia, Pa.
W. H. Zeigler, 320 Temple Court, Minneapolis, Minn.
Thos. L. Barrett, 27 No. 3rd St., Louisville, Ky.

Lupton Service

revolutionized the Foundry and Forge Shop type of building when—

POND TRUSS

(PATENTED)

was designed

The greatest tribute that can be paid an Industrial product has been given the POND TRUSS — that of adoption by the thinking men of that particular industry for which it was designed.

POND TRUSS was originally designed by the Lupton Service to solve the Daylighting and Ventilating problem for the General Electric Company's Erie Works.

So well did this finished product succeed is evinced in the widespread interest and many important installations in Foundries, Forge Shops, Glass Factories, Machine Shops, Power Houses and Steel Mills in this country and in other lands.

POND TRUSS not only provides for an even and perfect distribution of light, but is designed to eliminate the unnecessary cross-section of building, making the roof areas of such size, slope, and in such location as it may be necessary to deflect gases toward sash, preventing down draughts and all reverse currents when sashes are open. Owners are so well satisfied that in a number of instances old buildings have been remodeled and Pond Truss applied to reduce the tonnage cost by making it practical to operate the buildings under all weather conditions and secure maximum production from each workman, and that any additional cost of Lupton Products over the less meritorious in design and quality of workmanship is compensated for by service, cost of up-keep and all-round satisfaction.

LUPTON STEEL SASH

are used in side walls and monitor of roof of proper type and construction to freely ventilate and light entire floor areas under all weather conditions.

Lupton service is maintained to give authoritative information about any lighting and ventilating problem, without charge and without obligation.

The Lupton Catalogue No. 8 illustrates many examples of the finest buildings as erected in various parts of the world and gives comprehensive and valuable data relative to the subject of Daylight and Ventilation—a copy awaits your request.

The following installations are but a few of the many notable Buildings that are built around POND TRUSS, including various other Lupton Daylighting and Ventilating Products.

General Electric Company, Erie, Pa.
Toledo Glass Company, Toledo, Ohio.
Owens Bottle Machine Co., Toledo, Ohio.
Cleveland Electric Illuminating Co., Cleveland, Ohio.
National Supply Co., Toledo, Ohio.
West Steel Castings Co., Cleveland, Ohio.
Erie Malleable Co., Erie, Pa.
International Harvester Co., West Pullman, Ill.

David Lupton's Sons Company, Tulip and Westmoreland Streets, Philadelpia, Pa.

Contracts to Be Let

Bids received until Jan. 18, 1916.

Garbage Disposal

New York City, N. Y.

Bids or estimates for the disposal of garbage will be received until 12 o'clock noon, on Tuesday, January 18, 1916, at Room No. 1247, Municipal Building, Borough of Manhattan, The City of New York.

Form No. 1, for the disposal of garbage from the Boroughs of Manhattan, The Bronx and Brooklyn, for a period of five years, beginning January 2, 1917. The bidder to provide the site for the plant and to pay the City for the privilege of garbage disposal.

Form No. 2, for the disposal of garbage from the Boroughs of Manhattan, The Bronx and Brooklyn, on a site provided by the City of New York, for a period of five years, beginning January 2, 1917. The City will acquire the plant upon the termination of the contract at a stipulated price.

For further information concerning these contracts, see current issues of The City Record, published at 96 Reade St., N. Y. City, or apply to the Commissioner of Street Cleaning, Municipal Building, New York City.

Bids received until Jan. 5, 1916.

Furnishing Piling, Lumber, etc.

New Orleans, La., Dec. 3, 1915.

Sealed proposals will be received by the Board of Commissioners of the Port of New Orleans until January 5, 1916, at 8:00 p.m., for furnishing creosoted and untreated piling, creosoted lumber, creosoted sheet piling and creosoted wood block, or creosoted piling only, untreated piling only, creosoted lumber only, creosoted sheet piling only and creosoted wood block only, as may be required in the construction of the Dumaine Street Wharf.

Deposit—$3,000.00 cash or certified check.

Payment—monthly in full for material received, 50% allowed for material treated on requisition and not then ordered.

Bond—50% of the amount of the contract.

On and after Dec. 6, 1915, specifications will be on file at the office of the Engineer, J. Devereux O'Reilly, by whom full sets will will be furnished to prospective bidders on deposit of $10.00, which will be refunded to depositors who submit proposals and return sets in good condition.

To depositors not submitting proposals, $5.00 will be refunded on return of set in good condition. The right is reserved to reject any and all bids, and to waive any informality in the bids received.

ERNEST M. LOEB, President.

Bids received until Jan. 13, 1916.

Purchase and Wrecking of School

THE BOARD OF EDUCATION
Office of the Secretary
Paterson, N. J., Dec. 21st, 1915.

Sealed proposals are hereby solicited for the purchase of and the wrecking of the present school building No. 10, situated on the corner of Warren and Mercer Streets, Paterson, N. J.

The above work is to be done in accordance with the specifications of Fred W. Wentworth, Architect, copies of which may be had at the office of the Architect, Room 502 Citizens Trust Building, this city. Proposals must be enclosed in sealed envelopes addressed "Proposals for purchase and wrecking of old School No. 10," addressed to the undersigned and delivered at Room No. 24, City Hall, Paterson, N. J., on or before Thursday, Jan. 13th, 1916, at five o'clock in the afternoon.

The Board of Education reserves the right to reject any or all bids and to waive any defects or informality in any bid, should it be deemed to the best interest of the city so to do.

By order of the Board of Education.

LEONARD STOLK, President.
JAMES F. DUNPHEY, Secretary.

Bids received until Jan. 4, 1916.

Barge Canal Work

STATE OF NEW YORK,
OFFICE OF SUPERINTENDENT OF PUBLIC WORKS.
Albany, December 6th, 1915.

Sealed proposals will be received by the undersigned at his office in the Capitol, at Albany, N. Y., until twelve o'clock noon of Tuesday, January 4th, 1916, at which place and hour they will be publicly opened and read, for improving the New York State canals pursuant to the provisions of Chapter 147, Laws of 1903, and of the amendments thereto, as follows:

CONTRACT NO. 73-A (Revised).
Champlain Canal—Section 1.

For completing the construction of the canal from Northumberland to Stillwater.

Length about 15.0 miles. Sheets 1 to 16 inclusive.

Plans may be seen and detailed specifications, engineer's estimate of quantities, proposal blanks, form of contract and bonds required and other information for proposers may be had at the office of the Superintendent of Public Works at Albany, N. Y., at the office of the Assistant Superintendent of Public Works for the Middle Division at Syracuse, N. Y., at the office of the Assistant Superintendent of Public Works for the Western Division at Rochester, N. Y., and at the canal office, Spaulding's Exchange, Buffalo, N. Y.

Copies of detailed plans or drawings may be obtained from the State Engineer and Surveyor at Albany, N. Y., upon payment to him of the cost of producing them.

Monthly estimates will be paid of ninety per centum (90 per cent.) of the work done at the contract price. Every proposal for said work must be accompanied by a money deposit in the form of a draft or certified check upon some good banking institution in the City of Albany or New York, issued by a national or State bank in good credit within the State and payable at sight to the Superintendent of Public Works for five per centum (5 per cent.) of the amount of the proposal.

The person whose proposal shall be accepted will be required to execute a contract and furnish bonds within ten days from the date of notice of award delivered to him or them in person or mailed to the address given in the proposal.

Upon execution of the contract and approval of bonds, the certified check or draft will be returned to the proposer unless the same shall have been presented for collection prior to such time, in which case the amount of the deposit will be refunded by the Superintendent of Public Works.

The deposits of bidders other than the one to whom the award of contract shall be made will be returned immediately after the award has been made.

The amount of bond required for faithful performance will be ten per centum (10 per cent.) of the amount of the estimated cost of the work according to the contract price, and an additional bond, known as the labor bond, in the sum of ten per centum (10 per cent.) of the amount of the estimated cost of the work according to the contract price, will be required as security that the contractor will pay in full at least once in each month all laborers employed by him upon the work specified to be done in the contract.

In the event that more than one surety company is offered as surety on said bonds, coinsurance only will be accepted.

Each proposal must be addressed to the Superintendent of Public Works, Albany, N. Y., and must be endorsed on the envelope with the name of the construction for which the proposal is made.

Award, if made, will be made to the person or persons whose proposal shall be lowest in cost to the State for doing the work, and which shall comply with all provisions required to render it formal. Before any award shall be made the lowest bidder will be required to satisfy the Superintendent of Public Works of his ability to provide suitable equipment and materials for the proper performance of the work.

The right is reserved to reject all proposals and readvertise and award the contract in the regular manner if, in the judgment of the undersigned, the interests of the State will be enhanced thereby.

W. W. WOTHERSPOON,
Superintendent of Public Works.

Bids received until Jan. 17, 1915.

Brick Pavement

BOARD OF LOCAL IMPROVEMENTS

City of Evanston, Ill.

Notice is hereby given that bids will be received for paving with brick on concrete portions of Simpson Street, Bridge Street, Leon Place, Asbury Avenue, Grant Street, Noyes Street, Leonard Place, Washington Place, Wesley Avenue, Jackson Avenue, Ashland Avenue and Payne Street, amounting to approximately 29,900 square yards, as a whole, in accordance with the ordinance therefor. Said bids will be opened on the 17th day of January, 1916, at the hour of 8 p.m., in the Mayor's office in the City Hall of the City of Evanston.

The specifications for such improvement and blank proposals will be furnished at the office of the Commissioner of Public Works of the City of Evanston.

The Contractor will be paid in bonds, which bonds shall draw interest at the rate of five (5) per centum per annum, except payment (if any) to contractor by warrant against the first installment, shall bear no interest.

All proposals or bids must be accompanied by a certified check payable to the order of the President of the Board of Local Improvements of the City of Evanston for a sum not less than ten (10) per centum of the aggregate of the proposal. Said proposals or bids must be delivered to the President of the Board of Local Improvements in open session of said Board at the time and place fixed herein for opening the same. No proposal or bid will be considered unless accompanied by a check as herein provided.

The Board of Local Improvements reserve the right to reject any or all bids should they deem it best for the public good.

The successful bidder will be required to furnish a Performance bond equal to the contract and a Maintenance bond equal to twenty-five (25) per centum of the contract price, of some approved surety company guaranteeing said improvement against defects arising from poor material or poor workmanship, for a period of five (5) years from the date of the completion and acceptance thereof.

H. P. PEARSONS,

President of the Board of Local Improvements of the City of Evanston.

Dated, Evanston, Illinois, Dec. 20, 1915.

Bids received until Jan. 5, 1916.

Wharf and Causeway

New Orleans, La., Dec. 3, 1915.

Sealed proposals will be received by the Board of Commissioners of the Port of New Orleans until January 5, 1916, at 8:00 p.m. for the construction of the Dumaine Street Creosoted Wharf and re-inforced concrete causeway with creosoted wood block roadway.

Alternate proposals are requested for bids, to wit:

Board of Commissioners of the Port of New Orleans furnishing all creosoted lumber and piling, or bidders furnishing all material and labor. Bidders will be allowed to submit proposals either way or both ways.

Deposit—$15,000.00 cash or certified check.

Payment—monthly to the extent of 80% of the Engineer's estimate of work accomplished, including allowance for a reasonable stock of material.

Bond—50% of the value of the contract.

On and after Dec. 6, 1915, plans and specifications will be on file at the office of the Engineer, J. Devereux O'Reilly,, by whom full sets will be furnished to prospective bidders on deposit of $20.00, which will be refunded to depositors who submit proposals and return sets in good condition.

To depositors not submitting proposals, $10.00 will be refunded on return of set in good condition.

The right is reserved to reject any and all bids, and to waive any informality in the bids received.

ERNEST M. LOEB, President.

Bids received until Jan. 22, 1916.

Street Paving

La Porte, Indiana.

Bids will be received by the Board of Public Works until 11 A.M., January 22, 1916, for paving Indiana Ave. and Michigan Ave. 38,000 square yards. Estimated cost, $110,000.

L. DREW GODDARD, City Engineer.

Bids received until Jan. 17, 1916.

Street Paving

BOARD OF LOCAL IMPROVEMENTS

City of Evanston, Ill.

Notice is hereby given that bids will be received for paving with brick on concrete portions of Bridge Street, Payne Street, Country Road, Noyes Street, Dodge Avenue, Grant Street, Brown Avenue, Grey Avenue, Hartray Avenue and Pioneer Road, amounting to approximately 41,400 square yards, as a whole, in accordance with the ordinance therefor. Said bids will be opened on the 17th day of January, 1916, at the hour of 8 p.m., in the Mayor's office in the City Hall of the City of Evanston.

The specifications for such improvement and blank proposals will be furnished at the office of the Commissioner of Public Works of the City of Evanston.

The Contractor will be paid in bonds, which bonds shall draw interest at the rate of five (5) per centum per annum, except payment (if any) to contractor by warrant against the first installment, shall bear no interest.

All proposals or bids must be accompanied by a certified check payable to the order of the President of the Board of Local Improvements of the City of Evanston for a sum not less than ten (10) per centum of the aggregate of the proposal. Said proposals or bids must be delivered to the President of the Board of Local Improvements in open session of said Board at the time and place fixed herein for opening the same. No proposal or bid will be considered unless accompanied by a check as herein provided.

The Board of Local Improvements reserve the right to reject any or all bids should they deem it best for the public good.

The successful bidder will be required to furnish a Performance bond equal to the contract and a Maintenance bond equal to twenty-five (25) per centum of the contract price, of some approved surety company guaranteeing said improvement against defects arising from poor material or poor workmanship, for a period of five (5) years from the date of the completion and acceptance thereof.

H. P. PEARSONS,

President of the Board of Local Improvements of the City of Evanston.

Dated, Evanston, Illinois, Dec. 20, 1915.

Bids received until Jan. 12, 1916.

Turbo-Centrifugal Pump

Kansas City, Mo.

SEALED PROPOSALS will be received by the Purchasing Agent of Kansas City, Missouri, at the office of the Purchasing Agent, Second Floor City Hall, until two o'clock p.m. of January 12, 1916, for the designing, construction, delivery and erection of a steam turbine, reduction gear, centrifugal pumping unit of a capacity to pump continuously twenty (20) million U. S. gallons of water per twenty-four (24) hours, against a total combined head of three hundred and sixty (360) feet and a steam pressure of one hundred and sixty-five (165) pounds per square inch at throttle; together with all machinery, tools and appurtenances necessary; all in accordance with the plans and general specifications on file in the office of the Chief Engineer of the Water Department.

Each bidder shall deposit with the City Comptroller a certified check in the amount of Seven Hundred and Fifty Dollars ($750.00), payable to the City Comptroller of Kansas City, Missouri, and accompany his bid with the Comptroller's receipt therefor.

The certified check referred to in the Advertisement shall be submitted by each bidder as a guaranty that the bidder will, within ten (10) days after receiving the award of a contract, file with the City a satisfactory bond to the amount of Twenty-five Thousand Dollars ($25,000.00) and will execute the contract.

The Board of Fire and Water Commissioners does not bind itself to accept the lowest or any bid offered, and reserves the right to reject any and all bids and to waive any irregularity or informality in the bids.

(Signed) J. P. LANGAN, Purchasing Agent.

BURTON LOWTHER, Chief Engineer.

PROPOSALS FOR MOTOR SURVEY CRUISER—U. S. Engineer Office, Chicago, Ill.—Sealed proposals for constructing and delivering a motor survey cruiser will be received at this office until 10 A.M., Jan. 12, 1916, and then opened. Information on application.

Bids received until Jan. 8, 1916.

Rebuilding Dams

Norfolk, Va., Dec. 23rd, 1915.

SEALED PROPOSALS will be received by the undersigned, until 1:00 P.M. Saturday, January 8th, 1916, for furnishing materials and labor for rebuilding three (3) Dams and Spillways.

Plans, Specifications, and Information can be obtained from the Engineer in Charge, Department of Water.

The Board of Control reserves the right to reject any or all bids.

T. B. DORNIN, Engineer in Charge. THE BOARD OF CONTROL.

POWER-HOUSES—U. S. Engineer Office, Wheeling District, Wheeling, W. Va.—Sealed proposals will be received here until 11 a.m. (Eastern time), January 22, 1916, and then opened, for building fireproof power-houses at Dams Nos. 16 and 17, Ohio River. Information on application.

LOCK GATES—U. S. Engineer Office, Wheeling District, Wheeling, W. Va.—Sealed proposals will be received here until 11 a.m. (Eastern time), January 14, 1916, and then opened, for furnishing and erecting steel lock gates for Dam No. 14, Ohio River. Information on application.

POWER-HOUSE—U. S. Engineer Office, Wheeling District, Wheeling, W. Va.—Sealed proposals will be received here until 11 a.m. (Eastern time), January 6, 1916, and then opened, for building a fireproof power-house at Dam No. 14, Ohio River. Information on application.

PROPOSALS FOR BOILERS—Office Quartermaster, West Point, N. Y.—Sealed proposals will be received here until 12 M. January 24, 1916, and then opened, for two Water Tube Boilers and Stokers. Further information on application.

U. S. ENGINEER OFFICE, Dallas, Tex.—Sealed proposals for constructing and delivering one steel barge designated "A" will be received here until 12 noon, Jan. 27, 1916, and then publicly opened. Information on application.

Bids received until Jan. 12, 1916.

Purchase of Air Dried Sludge

DEPARTMENT OF PUBLIC IMPROVEMENTS.
SUBDEPARTMENT OF HIGHWAYS ENGINEER.
Baltimore, Md., Dec. 15, 1915.

Sealed proposals, executed in duplicate, for the purchase of Air Dried Sludge, produced at the Sewage Disposal Plant at Back River, Baltimore, are hereby solicited and will be received, addressed to the Board of Awards, care of Richard Gwinn, City Register, at the office of the City Register, City Hall, Baltimore, until 11 A.M., January 12th, 1916. A certified check of the bidder on a clearing-house bank, drawn to the order of the Mayor and City Council of Baltimore, to the amount of $500.00, must accompany each bid. Specifications and blank proposal sheets can be had at the office of the Highways Engineer, City Hall, on application. The right is hereby reserved to reject any and all bids.

R. M. COOKSEY, Highways Engineer.

PROPOSALS FOR THE PURCHASE OF Locomotives offered for sale by The Panama Canal and which are no longer needed.—Sealed proposals will be received at the office of the General Purchasing Officer, The Panama Canal, Washington, D. C., until 10.30 a. m., February 11, 1916, at which time they will be opened in public, for purchasing the above-mentioned articles. Blanks and general information relating to this Circular (No. 1001) may be obtained from this office or the offices of the Assistant Purchasing Agents, 24 State Street, New York City; 614 Whitney-Central Building, New Orleans, La., and Fort Mason, San Francisco, Cal.; also from the U. S. Engineer Offices in the following cities: Seattle, Wash.; Los Angeles, Cal.; Baltimore, Md.; Philadelphia, Pa.; Pittsburgh, Pa.; Boston, Mass.; Buffalo, N. Y.; Cleveland, Ohio; Cincinnati, Ohio; Chicago, Ill.; St. Louis, Mo.; Detroit, Mich.; Milwaukee, Wis.; St. Paul, Minn.; Chattanooga, Tenn.; Louisville, Ky.; Mobile, Ala., and Galveston, Tex.; Commercial Club, Kansas City, Mo.; Chamber of Commerce, Quincy, Ill., and Commercial Club, Tacoma, Wash.—F. C. Boggs, Major, Corps of Engineers, U. S. A., General Purchasing Officer.

Classified Advertising

Positions Open
Civil Service Work
Employment Agencies
Labor Bureaus
Positions Wanted
Wanted
Agents and Salesmen
Contract Work
Business Opportunities
Miscellaneous
Educational
Books
For Sale
Proposals

RATES: Positions Wanted, 3 cents a word, minimum charge 50 cents an insertion, payable in advance. Other advertisements, 5 cents a word, minimum charge $1.00. Count 4 words for blind address care of our New York or Chicago offices. Advertisements for bids $3.60 an inch.

ANSWERS addressed to us at 10th Ave. and 36th St., New York or 1144 Monadnock Block, Chicago will be forwarded without charge (excepting circulars or similar literature)

IMPORTANT: Original letters of recommendation or other papers of value should not be enclosed to unknown correspondents—send copies. Advertisers' names will not be furnished under any circumstances. Copy received until 10 A.M. Wednesday for next day's issue.

N

POSITIONS WANTED

Mechanical and Electrical Engineers

MECHANICAL AND CIVIL ENGINEER, experienced in design of metallurgical and chemical plants, power plants, conveying and storage equipment, general industrial plant work; good structural designer; available Jan. 1; references. PW186—Eng. News.

MECHANICAL ENGINEER, 35, technical school and 12 years' broad experience; New York interview. PW97—Eng. News.

Civil Engineers

CIVIL ENGINEERING STUDENT, experienced in surveying desires position; have own field and drafting instruments; location immaterial. PW92—Eng. News, Chicago.

GRADUATE CIVIL ENGINEER, 1915, 27, wants a job in railroad, hydraulic, bridge, etc., engineering; will go anywhere or do anything; experienced in city engineering work; references. PW153—Eng. News.

CIVIL ENGINEER, superintendent of a large water company, desires change; 15 years' experience in design, construction and management of hydraulic works. PW149—Eng. News.

CIVIL ENGINEER, 26, university graduate, three years' building experience including designing and estimating reinforced concrete desires to locate elsewhere. PW156—Eng. News.

CIVIL ENGINEER, 10 years' experience as draftsman, designer, inspector, estimator and chief of party on steel and reinforced-concrete structures, desires position with opportunity, outside work preferred; location immaterial. PW158—Eng. News.

GRADUATE CIVIL ENGINEER; 15 years' experience railroad surveys, location, construction, terminals, yards, designs, investigation reports and contract negotiations; Assoc. Mem. Am. Soc. C. E.—PW160—Eng. News.

CIVIL ENGINEER, Assoc. Member American Society, railroad valuation or maintenance work, graduate, 11 years maintenance and construction, two years Federal valuation, employed, desires change. PW21—Eng. News, Chicago.

CIVIL ENGINEER—New York concern about to effect changes wishes to locate suitable position for one of its engineers; young man, in charge of drafting and secretarial departments; location immaterial. PW171—Eng. News.

HIGHWAY ENGINEER, at present employed, open for change; large experience in municipal highway work, including old and modern types of pavements and road construction; good executive, expert on construction and repair costs and cost records; best references. PW172—Eng. News.

GRADUATE CIVIL ENGINEER, single, three years' field and office experience desires position; location immaterial. PW188—Eng. News.

CIVIL ENGINEER, graduate 1912, desires position in any branch of the profession; field, office and tropical experience; possess transit; can report immediately in any locality; salary moderate. PW187—Eng. News.

CONCRETE DESIGNER, 10 years' experience designing, detailing and supervising for various concrete systems, five years in charge of designing factory buildings. PW189—Eng. News.

CIVIL ENGINEER; technical education; eight years' experience field, office and design; railroads, maintenance and construction; Panama Canal construction, marine terminals, structures, concrete, reinforced concrete, steel, timber, reclamation, irrigation. PW183—Eng. News.

GRADUATE CIVIL ENGINEER, six years' field and office experience, desires position with opportunity; designer, building work, reinforced concrete and factory equipment. PW128—Eng. News.

CIVIL ENGINEER, 31, university graduate; 10 years' experience on railroad and industrial plant design and construction; now assistant superintendent with large contractors in Middle West; available after Dec. 15. PW127—Eng. News.

GRADUATE CIVIL ENGINEER, 1915, wishes employment in any branch of engineering where one can learn. PW181—Eng. News.

Bridge and Structural

STRUCTURAL ENGINEER, technical graduate, 14 years' experience in all classes steel structures, including bridges and subways, detailing, checking, estimating, designing, is open for engagement. PW157—Eng. News.

STRUCTURAL ENGINEER, 38, married, desires executive position with a responsible company; familiar with all classes of structural design, particularly power plant and buildings. PW180—Eng. News.

Draftsmen

ARCHITECTURAL DRAFTSMAN, 25 years old, university graduate, 3½ years' experience, desires position. PW192—Eng. News.

Surveyors

EXPERIENCED INSTRUMENT MAN, draftsman or computer desires position, going anywhere. PW169—Eng. News.

Superintendents

SUPERINTENDENT, engineer, 37, will fit any important post in contractor's office or field organization. PW701—Eng. News.

SUPERINTENDENT with 20 years' experience on pile driving, dredging, trestle and dock building, tunnel driving and lining, deep excavations, bridge foundations, locks, dams, hydro-electric developments, open for position. PW142—Eng. News, Chicago.

MUNICIPAL ENGINEER, university graduate; large and varied experience in municipal engineering and construction and an expert in plot development; city engineer of a large Eastern city for a number of years and in charge of all improvements. PW154—Eng. News.

CLERICAL MAN, 29, eight years' general construction experience, particularly large payrolls, cost accounting, correspondence; has initiative and executive ability. PW179—Eng. News.

EXPERIENCED QUARRY SUPERINTENDENT desires position after Feb. 1. Address "R. M.," 716 North Sixth St., Harrisburg, Penn.

MUNIPICAL ENGINEER, 20 years on surveys, planning, constructing and supervising highway improvements, pavements, etc.; good draftsman. PW178—Eng. News.

CONSTRUCTION SUPERINTENDENT and contractor's engineer with 15 years' successful experience in reinforced concrete and fireproof construction; thoroughly practical; progressive and efficient; field forces and plant organized; difficult and time propositions invited. PW185—Eng. News.

AMBITIOUS, ENEREGTIC STRUCTURAL DESIGNER, detailer and estimator with extensive experience on structural steel, reinforced concrete and timber construction, desires position; trusses, girders, bins, hoppers, trestles, highway bridges, furnaces, etc. PW168—Eng. News.

CONTRACTOR'S ENGINEER SUPERINTENDENT wants position Jan. 1; experience, foundations, caissons, buildings, bridges, sewers, dredging, railroad work. PW170—Eng. News.

SUPERINTENDENT OR FOREMAN desires position; wide experience, water sewers, state roads, etc.; strictly temperate; best references. PW184—Eng. News.

GRADUATE SHEFFIELD SCIENTIFIC, 1913, 35, drafting experience on railroad, structural, inspecting sewer construction, desires position with structural engineer, inside or outside; do anything to commence for later opportunity in structural designing; wages secondary to opportunity and permanency; references. PW161—Eng. News.

YOUNG MAN, graduate Cooper Union, 1915, desires position; salary secondary consideration. PW175—Eng. News.

POSITIONS OPEN

DRAFTSMEN—Good detailers wanted for condenser and heater work; location, Eastern New York State; give age, experience and salary expected. P173—Eng. News.

PHILADELPHIA BRANCH OFFICE of large Middle West manufacturing company has good opening for salesmen, designing engineers and draftsmen experienced in reinforced-concrete and other fireproofing materials; give full information. P174—Eng. News.

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STRUCTURAL ENGINEER AND DRAFTSMAN (male); $1,000-$1,800; examination Jan. 19-20; for vacancy in office of Supervising Architect, Treasury Department, Washington, D. C. Circular No. 53, Application Form 1312.

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Equipment Wanted items appear at the end of this list.

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2—Ingersoll-Rand, Cross Compound steam and air cylinders with Corliss valve gear 2500 cu. ft. capacity.—SAMPSON.

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Steel stiff leg, 125' boom, bull wheel, 35 ton.—TITAN.

1 Clyde stiff leg, 8 ton cap., 50' mast, 85' boom.—JOBST.

4 steel stiff leg—one 35' mast and sills, 88' boom, good for 6 tons with boom flat; one 25' mast and sills, 90' boom, good for 4 tons with boom flat; two 25' mast and sills, 85' boom, good for 5 tons with boom flat.—INTERNATIONAL.

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For sewers, cellars, grading, gravel plants.—TITAN.

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2—3 drum Nationals, one 10x12 and one 8¼x10, with boilers; Lambert 8½x10 D.D.D.C. Skeleton; 7½x10 D.D.D.C. Skeleton, 15 other makes and sizes.—MARINE.

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1—6¼"x8" D.C. D.D. with boiler and swinger "O. & S."—SEYFERT'S.

1 American hoist 8¼x10, with boiler, D.C. D.D. with swinging engine; 1 Clyde hoisting drum; 1 Lidgerwood hoist 8¼x10 with boiler, D.C. D.D. with swinging engine; 1 American hoist 7x10, with boiler, D.C. D.D.—JOBST.

1 American (steam) 24—5½x8, with 2 drums, 2 winch heads and boiler 28"x7'; 2 Lidgerwood (electric) double drum, 25 hp.—INTERNATIONAL.

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[Standard Gauge]

50 locomotives, Switch, Mogul, Consolidation, Ten Wheel and Saddle Tank types.—SOUTHERN.

2—40 ton switchers, overhauled.—CONTRACTORS S. CO.

40-ton Climax geared, rebuilt; like new.—DALLETT.

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One Porter locomotive, 100,000 lb. capacity, cylinders 16x24; first-class condition. Reiter, Curtis & Hill, Commercial Trust Bldg., Philadelphia, Pa.

[40" and 44"]

Electric—11 Baldwin, Westinghouse and Goodman; weights 4 to 8 tons.—NEW RIVER.

[36" Gauge]

10 10x16" Porter, Davenport and Vulcans.—SOUTHERN.

5 9x14" Porters.—SOUTHERN.

5—10x16 Vulcans, 1911-12.—CONTRACTORS S. CO.

[24" Gauge]

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70-ton Bucyrus, 2½ yd. dipper; Thew "O."—BRADEN.

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This machinery has been in use but two seasons. Will sell all or any part of this outfit. For prices and further particulars address,

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NO DEAD CENTERS

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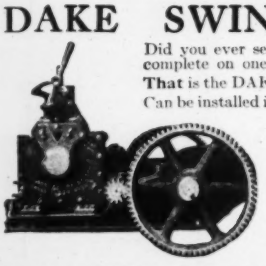

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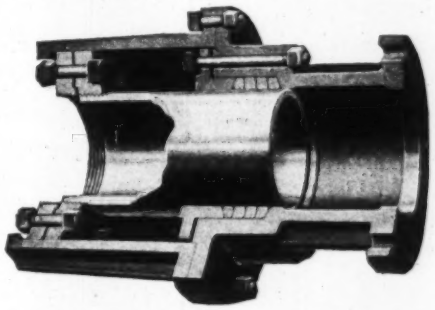
ENGINEERING NEWS

ROSS GUIDED EXPANSION JOINT



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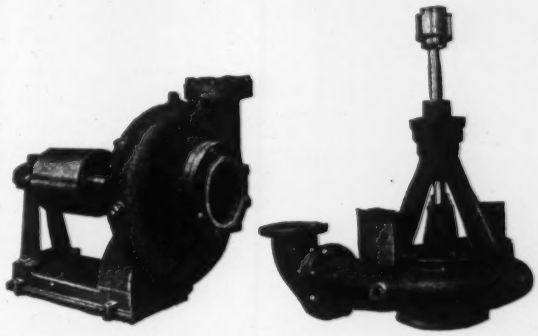

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Handy, because being compact it can be readily moved about and set up almost anywhere, no prepared foundation is required. It can be attached to a wall, a post, the trunk of a tree, the boiler of a hoisting engine, or a movable stand is provided.

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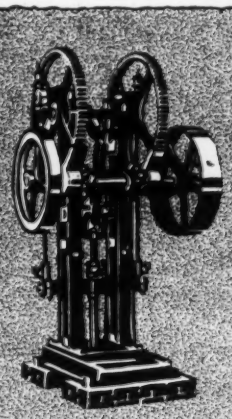

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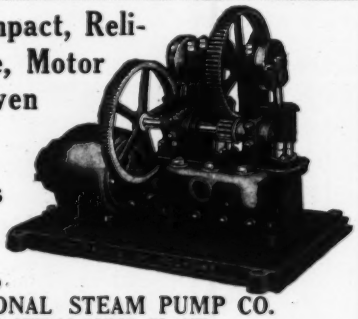

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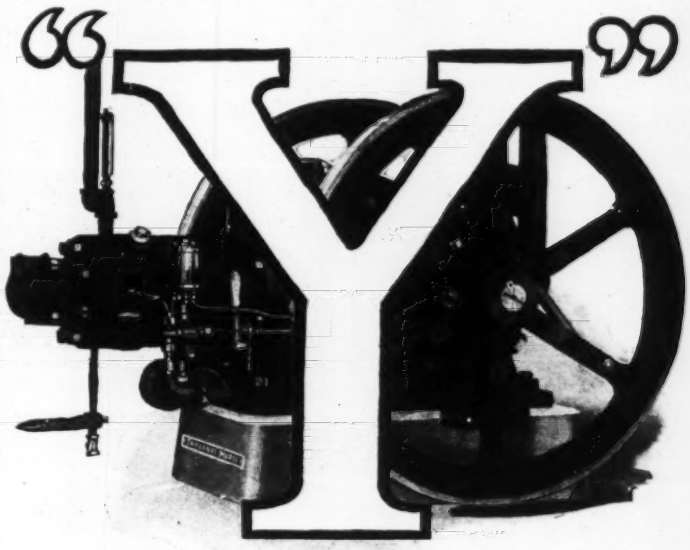

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10 hours
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The "VORTEX"

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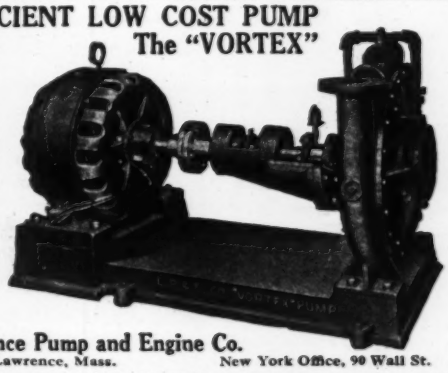

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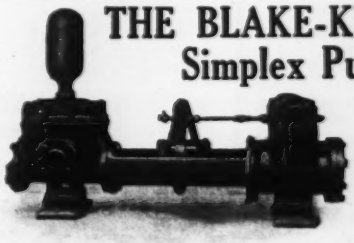

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With Centrifugal Pumps, whether of the Turbine or Volute Type, the name of Alberger is a guarantee of maximum service and minimum operating expense.

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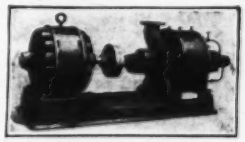

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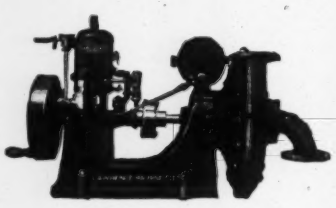
SHOP HEATING VENTILATING AND COOLING SYSTEMS

For the Modern Contractor



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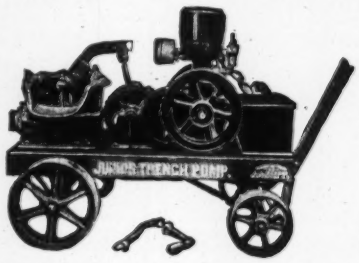

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Samson turbines use the water economically; the speed is quick and steady; they develop great power. Write us today.

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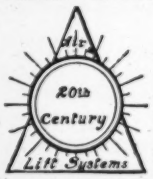

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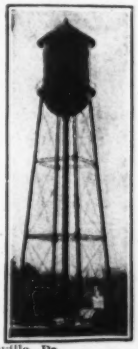

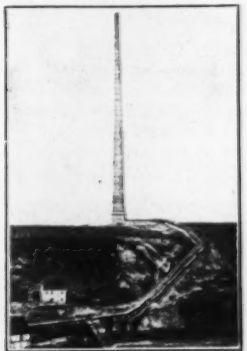

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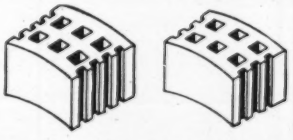

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Stand Pipe Iron Tanks Blast Furnaces
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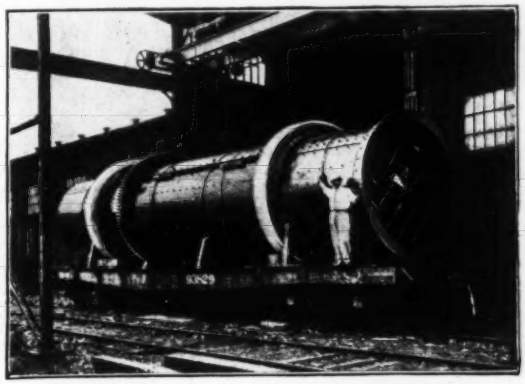
Pittsburgh, Pa.

Steel Plate Work

of every description for every purpose.



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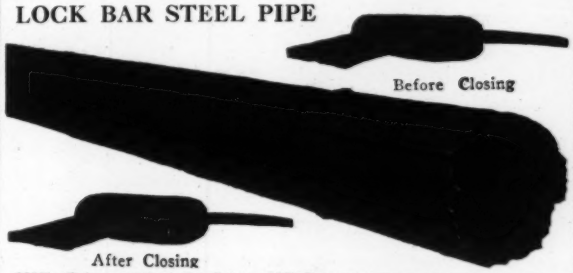

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DOWN underneath the tracks is where your leak is apt to be if you didn't lay that line with

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Breaks and fractures of pipe lines from the vibration of heavy traffic are prevented by the moderately flexible joints of

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A double line of 8′ diam. STEEL PIPE 1300 ft. long

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is our specialty. We fabricate and erect from your drawings, or will design your structure for you.

No Work Too Large for us to handle in the minimum of time. May we estimate on your requirements.

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Wood materials cannot rust — Outwears iron, withstands extremes

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The Name

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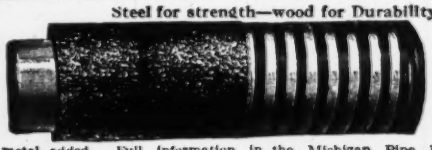
"NATIONAL" PIPE prepares your lines for every emergency.
A double-page announcement in the January 6th issue will interest every user of pipe.
Be sure to read it!

National Tube Company, Pittsburgh, Pa.

Steel for strength—wood for Durability.



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Combination Steel and Wood Water Pipe

has all the virtues of wood pipe with the strength of metal added. Full information in the Michigan Pipe Book. WRITE.

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The Name

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Read it now.

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Made of the finest old growth Oregon or Douglas Fir, Portland Wood Pipe is cheaper than iron or steel pipe yet of greater efficiency.

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Bell-holes practically eliminated.
Trench pumping expense reduced to minimum. Work finished on time.
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Leadite lessens labor. It fills every crevice from the yarn to face of bell. It is the efficient joint.

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It is light, strong and very durable. Lengths, 6 ft. to 12 ft. long.
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Long Life.
All parts interchangeable.
Lasting Accuracy.
Maintenance cost nominal.

Their merits have made meter systems popular.

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WATER FILTERS for Municipal and Industrial Plants. Gravity and Pressure Types.

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Contractors for Municipal and Industrial Filters, Water Softeners and Sewage Disposal Plants

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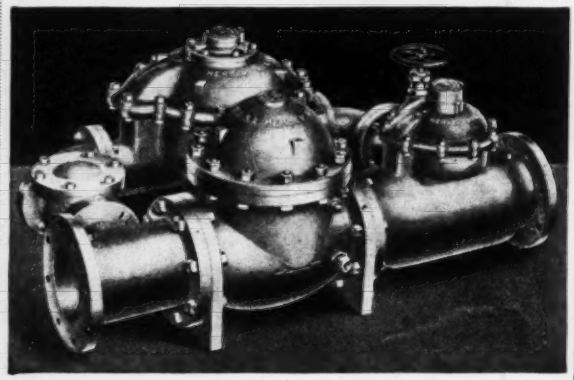

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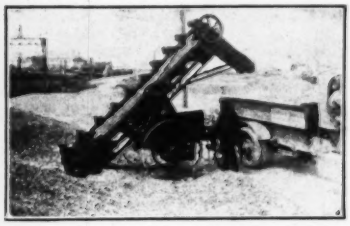
"ALL KINDS OF METERS FOR ALL KINDS OF SERVICES"
OVER 600,000 SOLD



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Cast-Iron Water, Gas and Flange Pipe, Special Castings, Fire Hydrants, Valves, General Foundry and Machine Work.

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Catalogue 12-A

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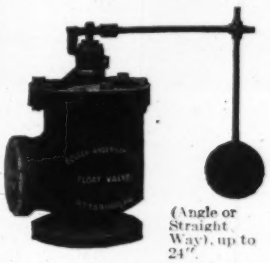

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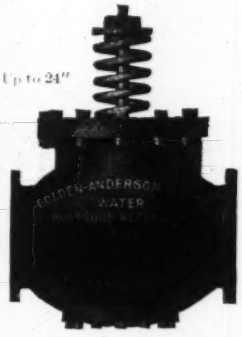

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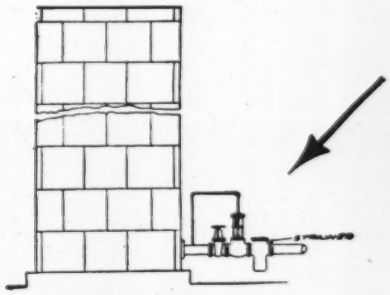

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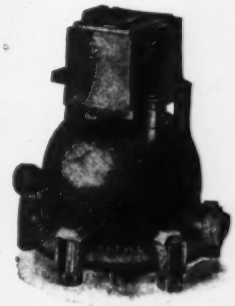

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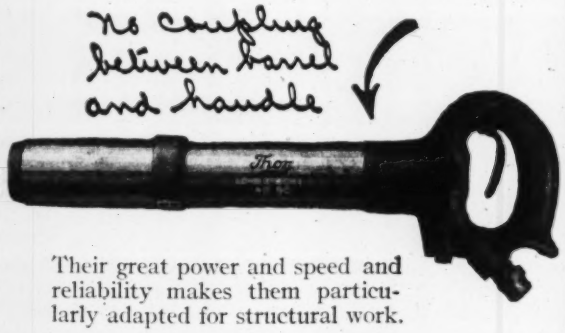

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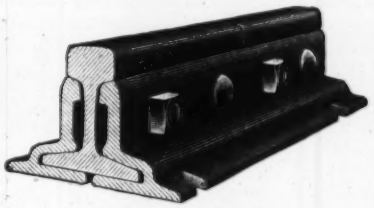

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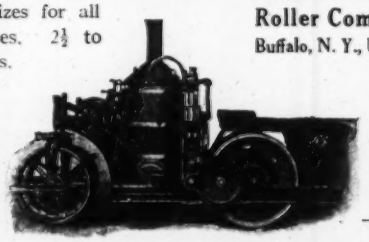

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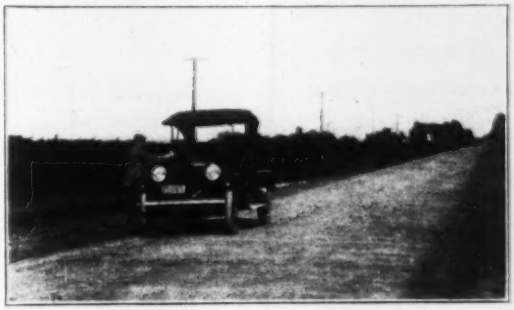

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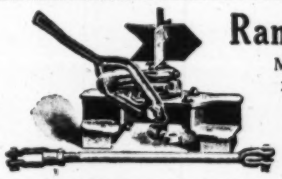

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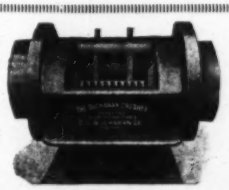

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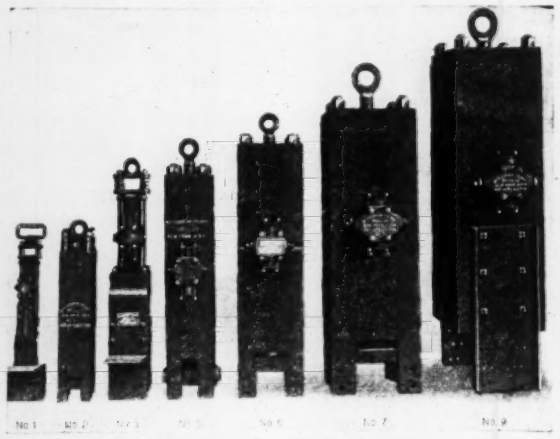

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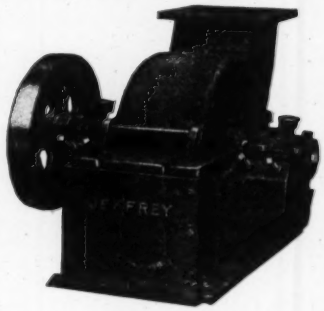

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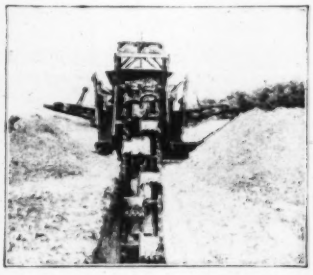

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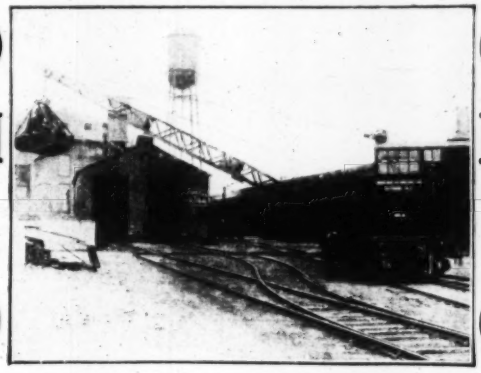

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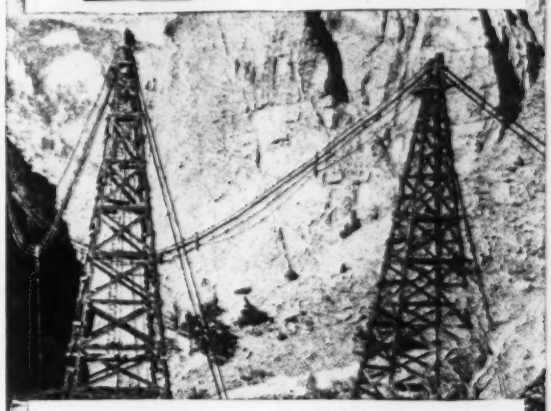

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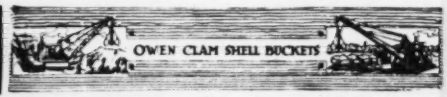

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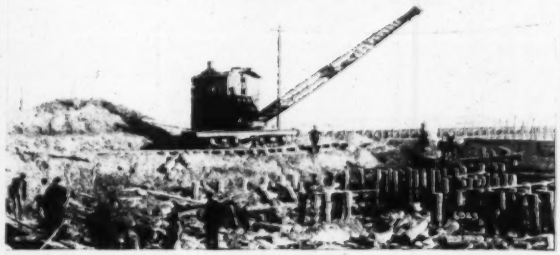

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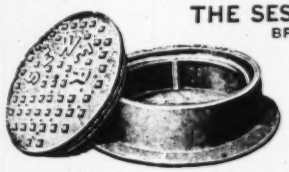

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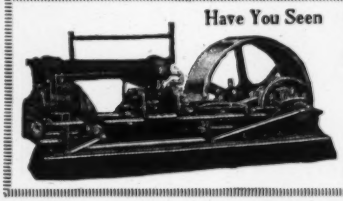

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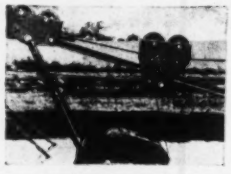

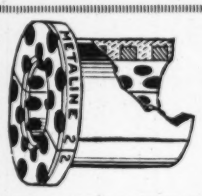

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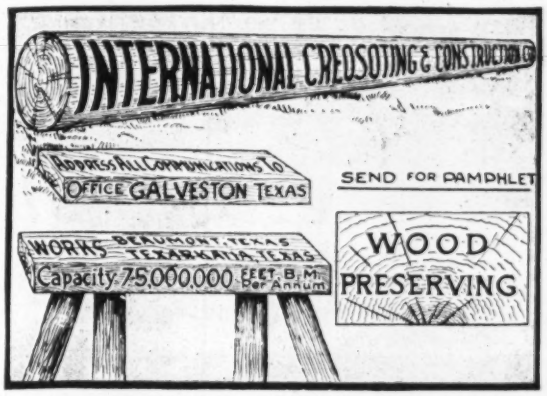

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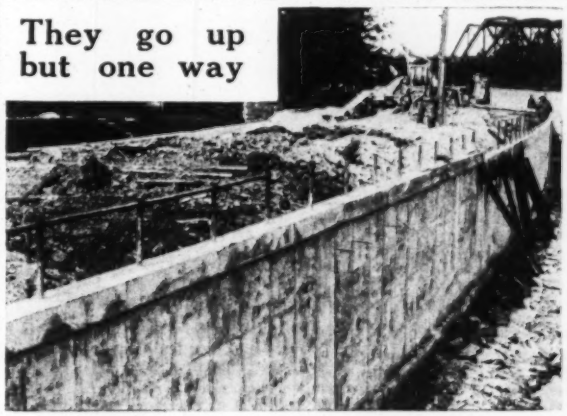

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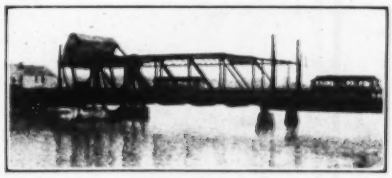

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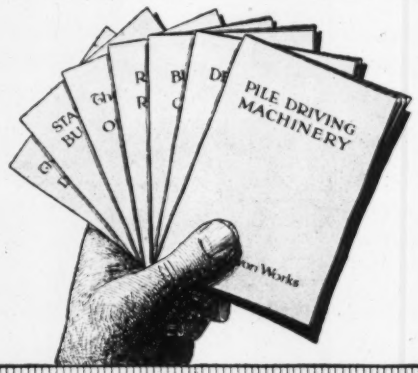

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